

**A G E N D A**  
**JAMES CITY COUNTY POLICY COMMITTEE**  
**REGULAR MEETING**  
**Building A Large Conference Room**  
**101 Mounts Bay Road, Williamsburg, VA 23185**  
**April 14, 2016**  
**4:00 PM**

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**A. CALL TO ORDER**

**B. ROLL CALL**

**C. MINUTES**

1. March 3, 2016 Minutes

**D. OLD BUSINESS**

**E. NEW BUSINESS**

1. Proposed Zoning Ordinance Revisions to Parking Minimums
2. Proposed Zoning Ordinance Revisions for Electric Vehicle Charging Stations
3. Proposed Zoning Ordinance Revisions to Development Review Committee Triggers
4. Proposed Zoning Ordinance Revisions to the LB, Limited Business and B-1, General Business Districts
5. Proposed Subdivision Ordinance Revision
6. Proposed Zoning Ordinance Revisions to Mixed Use

**F. ADJOURNMENT**

**ITEM SUMMARY**

DATE: 4/14/2016  
TO: The Policy Committee  
FROM: Paul D. Holt, III Secretary  
SUBJECT: Minutes Adoption-March 3, 2016 Regular Meeting

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**ATTACHMENTS:**

	Description	Type
▣	March 3, 2016 Minutes	Minutes

**REVIEWERS:**

Department	Reviewer	Action	Date
Policy Secretary	Secretary, Policy	Approved	4/8/2016 - 11:51 AM

**MINUTES**  
**JAMES CITY COUNTY POLICY COMMITTEE**  
**REGULAR MEETING**  
**Building A Large Conference Room**  
**101 Mounts Bay Road, Williamsburg, VA 23185**  
**March 3, 2016**  
**4:00 PM**

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**A. CALL TO ORDER**

Mr. John Wright called the meeting to order on Thursday, March 3, 2016 at 4:00 p.m.

**B. ROLL CALL**

Commissioners:

Mr. John Wright  
Ms. Robin Bledsoe  
Mr. Rich Krapf  
Mr. Heath Richardson

Absent:

Mr. Tim O'Connor

Staff:

Mr. Paul Holt, Planning Director  
Ms. Tammy Rosario, Principal Planner  
Mr. José Ribeiro, Senior Planner II  
Ms. Leanne Pollock, Senior Planner II  
Ms. Savannah Pietrowski, Planner  
Ms. Tara Woodruff, Director Budget and Accounting  
Mr. Alex Baruch, Development Management Assistant

**C. MINUTES**

Ms. Robin Bledsoe moved to approve the January 28, 2016 and February 11, 2016 minutes.

The minutes were approved 4-0, Mr. Tim O'Connor being absent.

1. January 28, 2016 Minutes
2. February 11, 2016 Minutes

**D. OLD BUSINESS**

1. FY2017-FY2021 Capital Improvements Program (CIP)

Mr. José Ribeiro, Senior Planner II, stated that purpose of this meeting is to look at the combined scores to see how the Policy Committee ranked the different Capital Improvement Projects. Mr. Ribeiro stated that the individual scores were also available if anyone wanted to see how they ranked a specific project. Mr. Ribeiro stated that the top and bottom rankings are highlighted in the spreadsheet. Mr. Ribeiro noted that there were some tie scores.

Mr. Rich Krapf stated that he thought many of the school entry redesign projects were grouped together because while Williamsburg-James City County Schools (Schools) ranked them, they were all the same basic project.

Ms. Robin Bledsoe asked where the Jamestown High School redesign project ranked on the list.

Mr. Krapf stated that it ranked fifth on the list, which was good because it was the Schools' number one priority.

Mr. Heath Richardson stated that it looked like most everyone ranked the Jamestown High School project higher on their list.

Ms. Bledsoe stated that it seemed like the Jamestown High School project already had a few pieces in place and would save money if the projects were done at the same time.

Mr. Richardson stated that in Mr. Tim O'Connor's email, he mentioned that the front entrance redesign at the schools should take priority.

Mr. Krapf stated that the Schools ranked the walkway the lowest of all the projects, ten out of ten, which is why it was helpful to have the Schools' representatives at the last meeting to clarify the reason each project was being done.

Mr. Richardson stated that he ranked the school projects lower because of the ranking criteria.

Mr. Krapf stated that everyone approaches the ranking process differently.

Ms. Bledsoe asked Mr. Ribeiro to show the original rankings submitted by the departments.

Mr. John Wright stated that he used the rankings as guidance to make sure their rankings fell similarly to where his ended up.

Mr. Richardson asked if this was the first time the County got such robust feedback from the schools in the CIP process.

Ms. Bledsoe stated that it has been a process throughout the years and the biggest hurdle that we overcame this year was the scheduling of when the CIP applications could come to the County for review.

Mr. Paul Holt stated that with all of the projects that were submitted this year the process has been fairly smooth.

Ms. Bledsoe stated that extending the timing of the process has been beneficial.

Ms. Leanne Pollock stated that the Schools previously had their own format for submitting CIP projects and last year was the first year that they filled out the County's application so the Policy Committee could compare apples to apples and have the same information from the Schools and the County projects.

Mr. Richardson stated that the School Board should be pretty stable over the next few

years with the additions to the Board in the last election. Mr. Richardson asked what the process moving forward with CIP would be with the Planning Commission and Board of Supervisors.

Mr. Ribeiro stated that on March 21<sup>st</sup> at the Planning Commission special meeting, the CIP will be up for a vote as a public hearing and then the recommendation will move on to the Board of Supervisors as a reading file item.

Mr. Wright asked if the applicants would be at the Planning Commission meeting to give presentations on their CIP applications.

Mr. Holt stated that they usually do not show up; however, if there is a question before the meeting or a need for an applicant to be there, then a representative could be available.

Ms. Bledsoe stated that the recommendation from the Policy Committee will be forwarded to the Planning Commission which gives members of the Planning Commission who are not on the Policy Committee an opportunity to ask questions.

Mr. Krapf stated that the next step for the Policy Committee would be to see if the Committee agrees with how the rankings aggregated. Mr. Krapf stated that the top five were consistent with his rankings so he did not have any amendments.

Ms. Pollock stated that the special consideration column was in the weighting spreadsheet so that, if a project dropped lower than members wanted, than they could factor in a special consideration to the score.

Mr. Krapf stated that he had added a special consideration to the marina because of the potential for a public-private partnership that could be coming in the near future.

Ms. Bledsoe stated that the marina project is important to her because it is deteriorating so quickly.

Ms. Bledsoe stated that she was surprised that the auxiliary gym ranked lower than the Chickahominy Riverfront Park splash pad and that she did not mean to rank the splash pad higher than the auxiliary gym.

Mr. Richardson stated that the auxiliary gym was ranked five out of their ten projects.

Mr. Krapf stated that he rated the auxiliary gym lower because he thought it was more of a nice-to-have than a necessity.

Ms. Bledsoe stated that Mr. O'Connor ranked the auxiliary gym much higher and would like for him to have an opportunity to speak to that ranking. Ms. Bledsoe stated that she would like to amend her score for the auxiliary gym to make it a higher priority.

Ms. Tammy Rosario stated that in Mr. O'Connor's email in the second bullet point he discussed school parity which may be why the auxiliary gym rose higher on his list.

Ms. Bledsoe stated that her concern was not why Mr. O'Connor's score was higher but why everyone else's was lower and because of those scores the auxiliary gym would be

ranked lower than a splash pad at Chickahominy Riverfront Park.

Mr. Richardson stated that he tried to enter the most objective scores as possible.

Ms. Bledsoe stated that where the auxiliary gym ended up being ranked mattered to her.

Mr. Krapf stated that there was a difference in his scoring of the splash pad being five points higher than the auxiliary gym because the Parks and Recreation staff made a good point about the impact of overcrowding in the big pool and a few other concerns if the splash pad does not go in.

Mr. Richardson stated that those impacts also caused his scores in quality of life and impacts to be higher and asked if at the Planning Commission meeting there could be a re-ranking of the projects.

Ms. Pollock stated that in the past the Policy Commission has forwarded their recommended rankings to the Planning Commission; however, if the Commission would like to attach certain notes to the bottom of the ranking to ensure the Planning Commission and Board of Supervisors are aware of certain discussion items staff can add those notes to their memo. Ms. Pollock stated that if there is a consensus within the Policy Committee to change the order that is within the Committee's right.

Ms. Bledsoe stated that she is in the minority in thinking the auxiliary gym should be higher than the splash pad and that she would defer to her peers.

Mr. Wright asked if there were any budget numbers for the CIP funding to know how many projects the money could fund.

Ms. Tara Woodruff stated that she did not have that information.

Mr. Wright stated that he is pretty sure the County does not have the funding to make all of the 2017 CIP projects possible.

Ms. Pollock stated that the Board of Supervisors would primarily deal with the financial side of the CIP funding whereas the Policy Committee and Planning Commission are looking at the projects from more of a Comprehensive Plan consistency aspect.

Mr. Richardson asked if at the end of this process when the Board of Supervisors is looking at the recommendation from the Planning Commission do they know that the Commission looks at the criteria in that way without the financials.

Ms. Bledsoe stated that they do and are very plugged into the process of how we get to these numbers. Ms. Bledsoe stated that most of the Commissioners are very close in their rankings.

Mr. Krapf made a motion to approve the rank order as stated in the aggregated ranking sheet with a note stating Ms. Bledsoe's opinion about the auxiliary gym and the splash pad.

On a voice vote to recommend approval of the CIP ranking with Ms. Bledsoe's amendment, the motion carried (4-0, Mr. O'Connor being absent).

Mr. Krapf made a motion to approve the rank order to forward to the Planning

Commission on March 21<sup>st</sup>.

Ms. Bledsoe stated she agreed as long as it included that she did not agree with the auxiliary gym being number 14 and preferred to be above the splash pad.

Mr. Wright asked for all those in favor. The motion passed 4-0.

Ms. Rosario stated that it did not sound like there were any special comments to forward.

Mr. Holt stated besides Ms. Bledsoe's.

Ms. Rosario stated that it would be reflected in the minutes but asked if the Policy Committee would like it forwarded with the ranking.

Ms. Bledsoe stated that she would like it added as a special comment.

Ms. Rosario stated that was a good clarification.

Mr. Krapf stated that Mr. O'Connor also had a special comment to add.

Mr. Holt stated that staff would reach out to him to clarify his comments.

**E. NEW BUSINESS**

**F. ADJOURNMENT**

Mr. Krapf made a motion to adjourn.

The meeting was adjourned at approximately 4:32 p.m.

**ITEM SUMMARY**

DATE: 4/14/2016

TO: The Policy Committee

FROM: W. Scott Whyte, Senior Landscape Planner II, and Ellen Cook, Senior Planner II

SUBJECT: Proposed Zoning Ordinance Revisions to Parking Minimums

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**ATTACHMENTS:**

	Description	Type
▣	Staff Report	Cover Memo
▣	Chapter 24, Division 2, Highways Streets, Parking, and Loading	Backup Material
▣	Albemarle County Parking Ordinance	Backup Material

**REVIEWERS:**

Department	Reviewer	Action	Date
Policy	Rosario, Tammy	Approved	4/8/2016 - 10:04 AM
Policy	Holt, Paul	Approved	4/8/2016 - 10:09 AM
Publication Management	Burcham, Nan	Approved	4/8/2016 - 10:12 AM
Policy Secretary	Secretary, Policy	Approved	4/8/2016 - 11:52 AM

## MEMORANDUM

DATE: April 14, 2016

TO: The Policy Committee

FROM: Scott Whyte, Senior Landscape Planner II  
Ellen Cook, Senior Planner II

SUBJECT: Zoning Ordinance Revisions to Parking Minimums

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### **Background**

During the 2010-2011 Zoning Ordinance revision process, the Board of Supervisors approved a reduction in off-street parking minimums to reduce impervious cover and eliminate excess parking required for new developments. Since that time, decreasing or eliminating parking minimums has continued to be of interest nationally as communities seek to build more pedestrian-friendly developments and to promote infill and land-efficient developments. Such developments help promote healthy and energy-efficient lifestyles, help preserve the natural environment and community character and can increase the property's economic development potential. Staff has reviewed a number of articles and locality examples and found that additional revisions to this section of the ordinance could be made.

The 2035 Comprehensive Plan lends support to these possible ordinance amendments through goals, strategies and actions in the Environmental and Transportation sections. ENV 4.3 notes that the County should, "through existing mechanisms such as encouraging enhanced pedestrian accommodations via a density bonus and reductions in required parking with approval of a mass or alternative transportation plan, or appropriate similar provisions, improve air quality and seek to reduce traffic congestion by promoting alternative modes of transportation and a reduction in auto dependency and trip distances." Action T 4.1 states, "Guide new developments in designing roadway and parking areas that reduce the visual impact of auto-related infrastructure, specifically in Community Character Areas."

Updating the Zoning Ordinance to reduce parking minimums was proposed as part of the Planning Division's 2015-2016 work program at the October 2015 Policy Committee meeting. Staff is proposing to evaluate this item in a multiple stage process similar to review of ordinance amendments proposed after adoption of the 2009 Comprehensive Plan. In Stage I (the subject of this staff memorandum), staff will identify issues and possible directions for the proposed amendment. Later, following the April 14 meeting, in Stage II, staff will provide the Policy Committee with a proposed draft ordinance for discussion. Lastly, in Stage III, staff will draft the final ordinance accounting for any Policy Committee comments.

### **Proposed Changes**

1. *Nonresidential Uses*: Currently Sections 24-59 (b) & (c) for commercial uses provide three use categories (A through C) and a fourth category for the other uses not listed that establish parking minimums. Staff recommended moving several uses from the highest demand category (A) to the moderate demand level (B) during the 2010-2011 Zoning Ordinance revision process. Staff also created a 120% parking maximum cap, revised the appeals process to allow parking reductions and created a waiver process to exceed the 120% cap. Staff is exploring revising the parking minimums for a few uses again; however, the emphasis would be on creating exceptions to the parking minimums as noted below.

2. *Residential Uses:* Currently Section 24-59 (a) for residential uses with multi-family units of two or more bedrooms requires 2.5 spaces for each townhouse unit and 2.2 spaces for each two or more bedroom apartment. Albemarle County requires 1.25 spaces for any unit of 500 square feet or less, 1.5 spaces for one-bedroom apartments of greater than 500 square feet and two spaces for two or more bedroom apartments. They also have an additional requirement for guest parking in multi-family developments. Staff believes that this may be a more accurate way to calculate parking minimums for multi-family units.
3. *Nursing Homes:* Section 24-59 (B) (10) requires nursing homes to have 1 space for every four residents and 1 space for each employee on the largest shift. Staff would like to explore adding the definitions for assisted living, independent living and skilled nursing and apply parking minimums to each of these specific uses rather than having the nursing home definition to apply to all three uses. Staff believes that the parking needs of these three uses are significantly different and that the parking need of each could be more accurately projected.
4. *Shared Parking:* Shared parking of Section 24-59 (e) is one method that the County currently uses to reduce parking spaces, while still providing adequate parking for the proposed land uses. Staff believes that more can be done with shared parking by revising some of the language to be more inclusive of various uses, such as allowing both residential and nonresidential parking to be shared, and by removing the word “both” from the language since that implies that only two uses can be involved. The intended result would be more people seeking to apply a shared parking agreement to their development.
5. *Mass Transit Plan:* Currently Section 24-59 (f) offers a reduction in minimum parking upon the approval of a mass transportation or alternative transportation plan; however, once the plan is approved the applicant must provide a reserve area to accommodate any spaces that were eliminated through submittal of the plan, submit the plan every two years to be reevaluated and provide the reduced parking if it is ever determined that the plan did not significantly reduce the amount of traffic as determined by the study. Staff believes that these three conditions may deter applicants from trying to submit transportation plans and that they could be deleted from the ordinance to encourage more developers to use this incentive.
6. *Appeals:* The minimum parking appeals process in Section 24-59 (h) as currently written allows an applicant to appeal for a change of a commercial use from Category A to Category B if it can be shown that the proposed use will not generate the amount of parking that is required in its present classification. Staff believes that this appeal could be broadened to apply to all parking category classifications A through C, and the language could also be changed from requiring the burden of proof from the applicant to simply say that the applicant must show that the parking generated will be below the required minimum. The phrase “burden of proof” may unnecessarily discourage applicants from taking advantage of this opportunity.
7. *Retail and Office Floor Area:* Finally, staff proposes to reevaluate the way we determine the area of a building to calculate minimum parking. Currently, the calculation is based on the square-foot area of retail and/or office floor area. Applicants have shared that too much floor area is counted as retail or office space. Albemarle County has more specific language to calculate floor area that may be more appropriate for James City County. They base the floor area calculation on 80% of the total building area, which is easier to understand and allows less room for different interpretations.

**Recommendation**

Staff is seeking Policy Committee guidance on the above discussion items and recommendations regarding revising the parking minimums and other procedural items as noted above. Based on input received at this meeting, staff will translate suggestions into ordinance form and provide the draft for review at the July Policy Committee meeting.

SW/EC/nb

ZORevParking-mem

**Attachments:**

1. Chapter 24, Division 2. Highways, Streets, Parking and Loading
2. Albemarle County Parking Ordinance

## DIVISION 2. - HIGHWAYS, STREETS, PARKING AND LOADING

### Sec. 24-52. - Statement of intent.

This division seeks to effectively manage traffic flow and to provide for an adequate number of parking spaces for vehicles while creating and maintaining vehicle areas which are safe, attractive, and functional for pedestrians and motorists. The ordinance establishes minimum standards for parking and is intended to be flexible in order to reduce impervious surfaces, monetary costs, and improve the function and appearance of parking areas.

(Ord. No. 31A-199, 7-13-99)

### Sec. 24-53. - Widening of highways and streets.

Whenever there shall be plans in existence, approved by either the State Department of Transportation or by the governing body, for the widening, extension or construction of any street or highway, the commission may require additional setbacks and yards for any new construction or for any structures altered or remodeled adjacent to planned roads or planned roads shown on county approved development plans, or the dedication or reservation of additional right-of-way in order to preserve and protect the planned road for such proposed street or highway as part of its review of subdivision plats, site plans or master plans.

(Ord. No. 31A-88, § 20-11, 4-8-85; Ord. No. 31A-199, 7-13-99)

### Sec. 24-54. - Minimum off-street parking.

There shall be provided at the time of erection of any main building or at the time any main building is enlarged, except detached single-family residential units, minimum off-street parking with adequate landscaping as required in article II, division 4 of the zoning ordinance and provision for entrance and exit by standard-sized automobiles, as provided herein.

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99)

### Sec. 24-55. - General provisions.

(a)

Certificate of occupancy required and exemptions. No certificate of occupancy shall be issued for any structure which does not comply with these requirements; however, structures already in use are exempted; provided that:

(1)

Such structure at the time of its erection complied with the provisions of all applicable ordinances of James City County;

(2)

Exempted buildings remain in continuous use and at no time remain vacant or unused for a continuous period of one year; and

(3)

No parking lot for any exempted property is enlarged or materially altered. If such a parking lot is to be enlarged or materially altered, the existing parking area as well as the new parking area shall be brought into conformance with this chapter; provided, however, the planning director may waive the setbacks and geometric design requirements found in sections 24-57 as they apply to existing parking areas, upon finding that the costs of complying with these standards would impose a severe hardship or that insufficient area exists to allow such revision.

For purposes of this section, "enlarged or materially altered" shall mean expansion or change in the parking lot which either increases the number of parking spaces by more than 15 percent or reduces the landscaped areas of the parking lot by more than 15 percent. Nothing in this section is intended to prohibit paving or surfacing of parking lots, the installation of curbs or bumpers, or other improvements which do not affect the number of spaces or the areas of the site dedicated to landscaped open space.

(b)

Location of off-street parking.

(1)

Required off-street parking spaces shall be located on the same lot as the structure or use to which they are accessory or on a lot adjacent thereto which has the same zoning classification or a zoning classification that would allow the use that the parking will serve. The rights of use of any such adjacent property shall be secured by ownership, easement or similar recorded covenant or agreement approved as to form and content by the county attorney, in order to assure the permanent availability of such parking.

(2)

Off-site parking spaces shall be permitted by the planning director which are not located on the same property or use they serve, provided they meet the criteria specified in this section. All such parking shall be easily and safely accessible to pedestrians. The rights of use of any such property and pedestrian walkways shall be provided for by ownership, easement or similar recorded covenant or agreement, approved as to form and content by the county attorney, in order to assure the permanent availability of such parking.

(3)

Incentive to reduce visibility of off-street parking. Applicants of a development proposal that:

a.

provides off-street parking to the side or rear of the site only;

b.

provides parking that is screened by landscaping or a building;

c.

is located along an urban/suburban community character corridor as designated on the James City County Community Character Corridors Type Designation and Buffer Treatment Map; and

d.

complements the design standards of the corridor or area to the satisfaction of the planning director;

may request the planning director to grant one of the following incentives:

a.

front building setback reduction;

b.

front landscape area width reduction; or

c.

minimum parking lot landscaping requirement reduction.

In no case shall a reduction be greater than 20 percent of the ordinance requirement.

(c)

Types of vehicles permitted in parking spaces. Off-street parking spaces shall be used solely for the parking of vehicles in operating condition by patrons, occupants or employees of the use to which such parking is accessory. Permanent storage of vehicles shall not be allowed. Storage of vehicles for sale shall not be allowed.

(d)

Parking of vehicles for sale/rent permitted and prohibited.

(1)

The following provisions shall apply to the parking or placement of automobiles, trucks, trailers, recreational vehicles, motorcycles, boats (a boat displayed for sale with a trailer shall be construed as a single vehicle), tractors, heavy construction equipment or other types of motorized vehicles or equipment with the intent to offer such vehicles or equipment for sale or rent. For the purposes of this section, the presence of signs, lettering, papers, flyers or other visible advertisement or information on or within the vehicle or the use of internet or print media indicating it to be for sale or rent shall be deemed evidence of such intent.

(2)

The owner or occupant of a parcel on which an occupied residential, commercial or industrial structure is located may park a legally inspected and tagged automobile, light-duty truck, recreational vehicle or trailer, boat or cargo trailer on the property for the purpose of selling or offering the vehicle for rent, provided that:

a.

The vehicle is owned by the owner or occupant of the property, or a member of the owner/occupant's immediate family living on the property. For the purposes of this section, the term "immediate family" shall be deemed to include spouse, natural or legally defined offspring or parents or grandparents of the owner or occupant of the premises. The owner must produce proof of ownership in the form of title or current registration if requested by inspection staff.

b.

The vehicle is parked on a cleared area on the property, and shall not be parked on forested or landscaped portions of the property.

c.

Any signs or lettering advertising the vehicle to be for sale or rent shall be attached to or applied to the vehicle and shall not exceed six square feet in area.

d.

Not more than two vehicles shall be parked or displayed for sale or rent at any time and not more than five vehicles may be parked or displayed for sale or rent on any property within the same calendar year.

e.

In the event the commercial or industrial use occupying the property is authorized to include the on-premises parking or storage of heavy construction equipment, large trucks, and similar vehicles/equipment, the above-noted limitation to "light-duty trucks" shall be waived.

f.

Parking of vehicles or equipment for sale or rent on undeveloped or vacant property, or on property on which the principal structure(s) are unoccupied, shall be prohibited.

(3)

Violations of the terms of this section shall be enforceable against the owner of the property and/or the owner of the vehicle.

(4)

The provisions of this section shall not be deemed to prohibit the sale or rental of vehicles or equipment when conducted from a site which has been authorized, pursuant to the terms of this chapter, for the conduct of vehicle or equipment sales/rental as a principal use of the property.

(5)

Violation of any of these terms may result in court action in accordance with section 24-22 in addition to having the vehicle towed from the property at the owner's expense.

(6)

The provisions of this section are not intended to prevent temporary parking related to day-to-day use and operation of the vehicle (i.e. shopping, normal road use) and should not be construed as such.

(e)

Appeals. In the event the planning director disapproves plans of this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-240, 5-12-09; Ord. No. 31A-254, 11-22-11)

Sec. 24-56. - Handicap parking.

Parking spaces for the handicapped and any necessary curb cuts, ramps and accessible routes to the proposed use shall be provided in and from parking areas in conformance with the regulations issued by the U.S. Department of Justice pursuant to the Americans with Disabilities Act (ADA) (See 28 CFR Part 36, Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities).

(a)

Dimensions. The required dimensions for parking spaces and aisles shall be in conformance with those provided in the following table.

Type of Handicap Space	Required Space Dimensions	Required Width of Adjacent Aisle (Aisle shall be clearly marked)	Minimum Number of Spaces Required
Standard	9' x 18'	5-feet	Refer to Sec. 24-56 (d)
Van Accessible	9' x 18'	8-feet	1 in every 8 required handicap accessible spaces shall be van-accessible, but not less than one (1).
Dimensions for Handicap Parking			

No more than two spaces may share an aisle. Each aisle shall be headed by a curb cut or ramp, with a detectable warning, to allow unimpeded access to the use.

(b)

Signage.

(1)

Each space shall be headed with a sign clearly marking the space as handicapped (with the international symbol of accessibility). Such signs shall not exceed 1.5 square feet in area and shall be positioned so that the bottom edge of the sign is no less than four feet above grade and no more than seven feet above grade.

(2)

All signs shall include the following language: "Penalty, \$100-\$500 Fine, TOW-AWAY ZONE." Such language may be placed on a separate sign and attached below existing above grade disabled parking signs, provided that the bottom edge of the attached sign is no lower than four feet above the parking surface.

(c)

Location. Location of handicapped spots shall be determined as follows. Such spaces shall generally be closest to the entrance to the building or use for which they are provided. The spaces shall be connected to the use by a paved walk with a grade not to exceed 1:20, no less than five feet wide, with curb cuts, ramps and detectable warnings where necessary, which shall allow unimpeded access to the use. When a ramp is required to provide an accessible route, it shall be constructed in conformance with ADA regulations.

(d)

Number of handicap spaces required. The number of handicapped parking spaces shall be determined by the following chart:

1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1,000	2 percent of total
1,001 and over	20 plus 1 for each 100 over 1,000

Total Off-Street Parking Required	Handicap Spaces Required
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(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99)

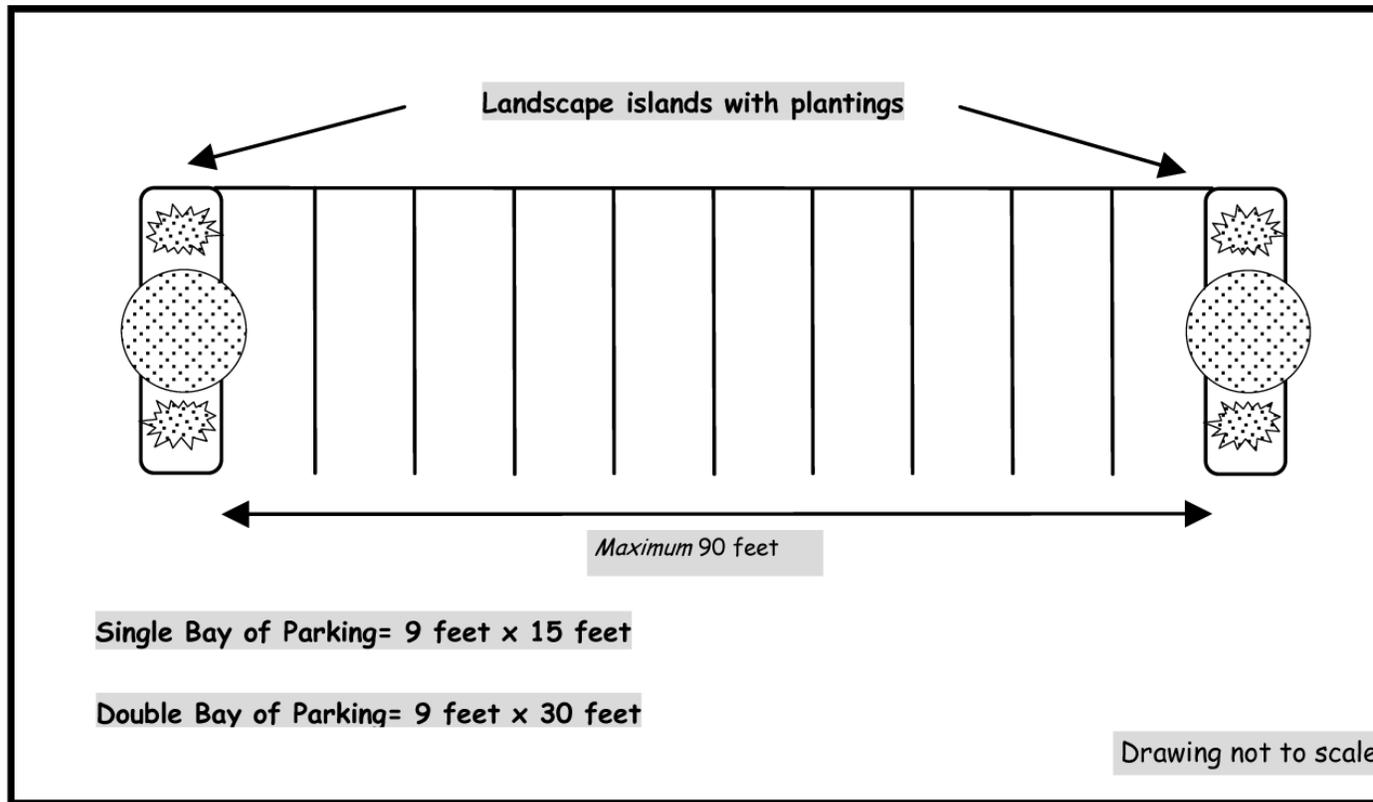
Sec. 24-57. - Parking lot design.

Parking areas shall be arranged for functional efficiency and safety for both vehicles and pedestrians and shall be designed to be amenable to surrounding property. Parking areas, accessory or otherwise, shall comply with the following:

(a)

Dimensions of parking bays and required islands. The parking lot shall be constructed so that spaces are grouped into bays. At the end of each bay, a landscape island of at least nine feet in width and 15 feet in length shall be built to separate the bays from each other or from traffic lanes. When the parking bays contain double rows of parking spaces, the landscape island shall be increased to nine feet in width and 30 feet in length. A parking bay may not be constructed to a length of more than 90 feet without constructing a landscape island. The planning director may approve islands which vary from nine-foot by 15-foot or nine-foot by 30-foot rectangles in order to provide desirable geometric design features such as rounded corners and angles to facilitate maneuvering of automobile traffic. However, in no case shall the total area of an island be decreased as a result of such design change.

*Figure 1-Parking Bays and Landscape Islands Dimensions*



(b)

Protection of landscape areas and location of parking areas and drive aisles. All landscape areas contiguous to parking bays shall be protected from intrusion by vehicles through installation of curbs or bumpers. Parking areas shall not be located within five feet of any building. Driveways shall not be located within five feet of any building except where vehicular access is necessary. The above-mentioned five-foot setback for parking areas and drives shall not be required for vehicle parking areas and drives (including those serving the parking area) located underneath a building or within a parking garage.

(c)

Connections to adjacent parcels. Commercial development designated as community commercial or neighborhood commercial on the Comprehensive Plan shall connect to similarly designated adjoining parcel(s) via a stub-out to the property line(s) with the objective of providing internal vehicular and pedestrian access between neighboring commercial parcels. The planning director may waive the connection requirement upon finding that such connection is found to be impractical or is opposed in writing by the adjacent property owner.

(d)

Geometric standards.

(1)

The design of the parking lot shall meet the minimum geometric standards presented in the following table:

Angle of Parking (Degrees)	Direction of Traffic	Dimension of Stall (in feet)	Width of Aisle (in feet)
Parallel	One-Way	8 x 22	12
30	One-Way	9 x 18	14
45	One-Way	9 x 18	14
60	One-Way	9 x 18	18
90	Two-Way	9 x 18	24

Minimum Off-Street Parking Area Dimensions

(2)

Other parking angle and aisle dimensions other than those listed in the chart contained in (d) (1) above may be permitted by the planning director or his designee upon finding that they conform to commonly accepted engineer design standards and do not compromise the safety, appearance, or function of the parking area. In no case shall the stall dimensions for angle parking be less than nine feet by 18 feet.

(3)

The minimum aisle dimension of any parking lot designed to accommodate at least 500 vehicles and intended for long-term parking may be reduced by four feet, provided the lot is designed and marked for one-way traffic, the parking spaces form an angle of 80 degrees to 90 degrees with the aisle, each vehicle is individually guided to a parking space by an attendant, and the safety and effective operation of the lot has been clearly demonstrated.

For the purpose of this section, the phrase "long-term parking" shall mean parking the duration of which is on the average six hours or more.

(e)

Surface and drainage of parking areas. Parking areas, driveways and entrances shall be surfaced with gravel, stone, asphalt or concrete and shall be maintained in good repair. Adequate drainage shall be provided in all parking areas for the removal of stormwater and a drainage plan shall be submitted with the site plan and approved by the environmental director.

The use of grass pavers may be permitted in low-traffic areas (i.e. overflow parking for churches, special events, etc.) upon approval from the planning director, where it can be demonstrated that the vegetation will survive the amount of expected traffic.

(f)

Entrances to parking areas from public or private roads. The location, size, and number of entrances from parking areas onto public or private roads shall be shown on the site plan. Upon finding that on-site traffic circulation, offsite traffic flow or public safety would be impaired or improved, the planning commission may require the location, number, and/or size of proposed entrances to be modified, limited, or increased.

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-254, 11-22-11)

Sec. 24-58. - Special provisions for bus parking.

If provided, bus parking areas shall be arranged for functional efficiency and convenience and shall be designed to be amenable to surrounding property. Bus parking areas, accessory or otherwise, are exempted from the requirements of section 24-57, but shall comply with the requirements of section 24-55 (a) and with the following:

(a)

Site plan required. Site plans, in accordance with article III of this chapter, shall be submitted for all new off-street parking areas for buses or for any additions to existing off-street parking areas for buses.

(b)

Signs for bus parking only. Parking areas to be used for bus parking shall be used for bus parking only. Signs shall be erected within the parking lot indicating those areas designated for bus parking only.

(c)

Location. No parking area for buses shall be located closer than 30 feet to adjacent residential uses, hotels, motels, hospitals or institutes of human care and occupancy. Upon finding that due to enhanced landscaping, the use of berms, or other site characteristics and/or improvements the bus parking area is sufficiently screened from the uses listed above, the planning director may reduce this buffer/setback requirement to a minimum of 20 feet.

(d)

Dimensions. The design of the bus parking lot shall meet the minimum geometric standards presented in the following table.

Type	Dimension of Stall	Minimum Width of Aisle(s)

	(in feet)	(in feet)
Perpendicular or Angled Parking	12 x 40	24
Parallel Parking	12 x 50	24
Minimum Off-Street Bus Parking Dimensions		

The width of aisles within bus parking lots shall be determined by the turning radii necessary to safely maneuver into and out of the parking spaces, however, shall in no case be less than 24 feet wide.

(e)

Entrances to parking areas. The location, size and number of entrances from parking areas onto public or private roads shall be shown on the site plan. Upon finding that on-site traffic circulation, offsite traffic flow or public safety would be impaired or improved, the planning commission may require the location, number, and/or size of proposed entrances to be modified, limited, or increased.

(f)

Surface and drainage of parking areas. Bus parking areas shall be surfaced with gravel, stone, asphalt or concrete and shall be maintained in good repair. Adequate drainage shall be provided for the removal of stormwater and a drainage plan shall be submitted with the site plan and approved by the director of engineering and resource protection.

(g)

Adequate lighting shall be provided in accordance with section 24-57 (c).

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-291, 8-13-13)

Sec. 24-59. - Minimum off-street parking requirements.

(a)

Residential uses.

(1)

Minimum number of resident parking spaces. The minimum number of off-street parking spaces required for residential uses is provided in the following table.

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Single-Family Unit	2
Single-Family Unit with an accessory apartment	3
Townhouse Unit	2.5
1-Bedroom Apartment	1.5
2 or more Bedroom Apartment	2.2
Manufactured Home	2
Other Residential Units	1.5
Type of Residential Unit	Minimum Number of Spaces Required

Spaces in garages shall be counted towards the required minimum number of parking spaces for each dwelling. The parking space within the garage shall be large enough to provide an adequate parking space for a full size automobile and necessary space for ingress and egress out of the vehicle as determined by the zoning administrator. Building plans shall be submitted that demonstrate the adequacy of the garage(s) for accommodating parking, adequate ingress and egress out of the vehicle, and interior access to the residential unit.

(b)

Commercial uses. Commercial and institutional uses shall be divided into various categories according to the parking demand which they generate, as follows:

Category A—High demand. High parking demand generators shall provide a minimum of one parking space per 200 square feet of retail and/or office floor area but not more than 120 percent of the minimum requirement, to include:

- Convenience stores.
- Dance Halls/Clubs.
- Drug stores.
- Libraries.
- Liquor stores.
- Lodges, civic clubs, fraternal organizations, service clubs, and private clubs.
- Post offices.
- Retail food stores, bakeries and fish markets.
- Truck stops.

Category B—Moderate demand. Moderate parking demand generators shall provide a minimum of one parking space per 250 square feet of retail and/or office floor area but not more than 120 percent of the minimum requirement, to include:

- Arcades.
- All other commercial uses not specified in Category A or C.
- Automobile and trailer sales and service.
- Banks and other financial institutions.
- Billiard parlors and pool rooms.
- Business, governmental and professional offices.
- Laundries and dry cleaners.
- Lumber and building supply.
- Machinery sales and service.
- Photography, artist and sculptor stores and studios.
- Plumbing and electrical supply.
- Retail and service stores, including the following stores: appliances, books, cabinets, cameras, candy, carpet, coin, department, dressmaking, electronics, florist, furniture, furrier, garden supply, gift, greeting cards, handicrafts, hardware, home appliance, health and beauty aids, ice cream, jewelry, locksmith, music, office supply, optical goods, paint, pet, photography, picture framing, plant supply, secretarial services, shoes, sporting goods, stamps, tailor, tobacco and pipes, toys, travel agencies, upholstery, variety, wearing apparel, and yard goods.
- Retail stores, general.
- Tire, transmission, glass, body and fender, and other automotive product sales and service.

Category C—Uses with unique requirements. Category C uses shall provide minimum parking as stated below but not more than 120 percent of the minimum requirement:

(1)

Bowling alleys. Three spaces per alley plus one space for every 200 square feet of accessory business use.

(2)

Barber shops and beauty parlors. At least three spaces plus two spaces for every barber or beautician chair.

(3)

Furniture and carpet stores and/or show rooms. One space for every 400 square feet of retail floor area.

(4)

Hospitals. Two parking spaces for every bed.

(5)

Indoor vehicular sales show rooms. One space for every 400 square feet of retail floor area.

(6)

Medical office/clinic (reference (18) below for Veterinary Hospitals). Seven spaces per practitioner, or one space per 250 square feet, whichever is greater.

(7)

Mini-storage warehouses. One space per 100 units, plus two spaces per on-site caretaker residence.

(8)

Mortuaries and funeral homes. The applicant shall provide a rationale justifying the number of parking spaces provided. The rationale should cite commonly accepted industry standards, provide information on peak parking demands, shared parking opportunities, hours of operation, and other variables which would influence the number of parking spaces provided on-site. The planning director shall review and approve the number of parking spaces provided prior to final site plan approval.

(9)

Motels, hotels, and tourist homes. One space per rental unit plus four parking spaces for every 50 rental units plus one space per five persons to the maximum capacity of each public meeting and/or banquet room. Accessory uses (restaurants, bars, etc.) shall provide the number of parking spaces required for those uses individually.

(10)

Nursing homes. One space for every four residents, plus one parking space for each employee on the largest shift.

(11)

Outdoor retail sales/display areas. At least one space per 500 square feet of area.

(12)

Outlet malls. Five spaces per 1,000 square feet of retail floor area. For the purposes of this provision, an "outlet mall" shall be defined as four or more stores which (1) are physically connected or are otherwise arranged in an integrated manner, (2) share a common parking area, and (3) the majority of the individual stores primarily sell the goods of a single manufacturer or sell returned, discontinued, overstock, and/or similar goods..

(13)

Planned shopping centers, excluding outlet malls, with four or more stores using a common parking lot, shall provide parking spaces according to the following schedule:

Total Retail Floor Area per 1,000 square feet	Number of Spaces per 1,000 square feet
1 to 300,000	4
Over 300,000	4.5

Where a theater or other place of public assembly is proposed in conjunction with any shopping center which contains at least 60,000-square feet of retail floor area, the number of parking spaces required for the theater may be reduced by 25 percent of what would have been required under subsection (17) below.

(14)

Recreation facilities. For recreation facilities not listed herein, the applicant shall provide a rationale justifying the number of parking spaces provided. The rationale should cite commonly accepted national park and recreation standards, provide information on peak parking demands, shared parking opportunities, hours of operation, and other variables which would influence the number of parking spaces provided on-site. The planning director shall review and approve the number of parking spaces provided prior to final site plan approval.

(15)

Rental of rooms. Rental of rooms to a maximum of three rooms shall provide off-street parking totaling one more parking space than the total number of rooms to be rented.

(16)

Restaurants. One space for every four seats based upon the maximum seating capacity allowed.

(17)

Places of public assembly including houses of worship and public meeting halls. One parking space per five seats based upon the planned seating capacity. For uses with bench seating, each 24 inches of bench shall be counted as one seat. In calculating the number of seats, all resulting fractions shall be rounded up to the nearest whole number.

(18)

Veterinary hospitals. Three spaces per examination or treatment room, plus one space per employee on the largest shift.

(c)

Industrial uses. Industries, warehouses and wholesale establishments not selling directly to the public shall provide a minimum of one parking space per two employees on the largest shift.

(d)

All other uses—planning director determination. Where the required number of parking spaces is not set forth for a particular use in the preceding subsections, where the applicant is uncertain as to final use or size of the structure or where there is no similar general type of use listed, the planning director shall determine the number of spaces to be provided.

(e)

Shared parking. Shared use of required parking spaces may be permitted where two or more uses on the same or separate sites are able to share the same parking spaces because their parking demands occur at different times. The location of such shared parking area(s) shall also be in compliance with section 24-55 (b). Shared use of required nonresidential parking spaces is allowed if the following documentation is submitted in writing to the planning director as part of the site plan review:

(1)

The names and addresses of the uses and of the owners or tenants that are sharing the parking;

(2)

The location and number of parking spaces that are being shared;

(3)

An analysis showing that the peak parking times of the uses occur at different times and that the parking area will be large enough for the anticipated demands of both uses; and

(4)

A legal instrument such as an easement or deed restriction that guarantees access to the parking for both uses and perpetual maintenance of the shared parking facilities. The rights of use of any such lots and pedestrian walkways shall be provided for by ownership, easement or similar recorded covenant or agreement, approved as to form and content by the county attorney, in order to assure the permanent availability of such parking.

(f)

Mass or alternate transportation plans.

(1)

The minimum number of required parking spaces may be reduced upon the approval of a mass transportation or alternate transportation plan, which details arrangements for the mass or alternate transit of potential visitors to the site, including residents, employees, and customers. The plan shall also demonstrate that facilities exist or will be provided to accommodate the safe loading and unloading of mass transit passengers. A facility which provides a safe and comfortable waiting area for passengers shall also be provided.

Such plans shall be subject to the review and approval of the planning director and transit manager prior to the reduction of the number of required parking spaces.

(2)

Each lot for which the minimum number of parking spaces has been reduced shall show a reserve area sufficient in size to accommodate the number of parking spaces which were not required to be constructed.

(3)

Every approved mass transportation or alternate transportation plan shall be reviewed by the planning director and transit manager every two years. The purpose of the review is to ascertain whether the plan has the effect of significantly reducing the automobile traffic to and from the site, and whether the reduced number of parking spaces is sufficient to accommodate the automobile traffic to the site. The planning director and the transit manager shall make a determination to this effect.

(4)

In the event that the planning director and transit manager determine that an approved mass transportation plan or alternate transportation plan has not had the effect of significantly reducing automobile traffic to a site, and that the reduced number of parking spaces is not sufficient to accommodate the automobile traffic to a site, the owner shall construct the number of parking spaces necessary to meet the minimum required under this ordinance.

(g)

Parking Garages. The maximum parking requirement shall not be applicable for establishments utilizing parking garages.

(h)

Appeals and waivers:

(1)

Appeals. A property owner may appeal for a change of a commercial use from Category A to Category B or a less restrictive requirement; however, the burden of proof shall be upon the applicant to show that the particular activity will not reasonably generate parking demand sufficient to justify the parking requirement of its present classification. Appeals for changes to parking classifications shall be made to the planning director.

(2)

Waivers. A property owner may be granted a waiver by the planning director from the 120 percent maximum parking cap if it can be shown that due to unique circumstances a particular activity would be expected to generate more parking demand than that allowed by the maximum parking cap. The planning director shall make a determination if the requested additional parking is necessary. The applicant shall demonstrate efforts toward utilizing a shared parking agreement or implementing a parking management plan to meet demand. The planning director may place conditions upon the granting of a waiver and may require that the parking area be landscaped in addition to the minimum landscaping requirements. In the event the planning director disapproves plans applicable to this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-238, 5-12-09; Ord. No. 31A-254, 11-22-11)

Sec. 24-60. - Bicycle parking facilities.

Bicycle parking facilities shall be provided for all retail and office development 20,000 square feet in floor area and above. The facilities shall be permanently affixed to the ground and shall be provided in accordance with the following schedule:

Building Square Footage	Number of Facilities and Parking Spaces
20,000 to 50,000	1 facility with a minimum of five (5) parking spaces.
50,001 to 200,000	2 facilities with a minimum of five (5) parking spaces per facility.
200,001 or more	3 facilities with a minimum of five (5) parking spaces per facility.
Required Bicycle Parking	

(Ord. No. 31A-199, 7-13-99)

Sec. 24-61. - Off-street loading requirements.

On the same premises with every building, structure or part thereof erected and occupied for manufacturing, storage, warehouse, goods display, department store, wholesale store, market, hotel, hospital, mortuary, laundry, dry cleaning or other uses similarly involving the receipt or distribution of vehicles, materials or merchandise, there shall be provided and maintained on the lot adequate space for standing, turning, loading and unloading services. In no case shall the required off-street loading space be part of the area used to satisfy the off-street parking requirement, nor shall the space for loading and unloading of vehicles be so located that a vehicle using such loading space projects into any public or private street or alley or driving aisle required for circulation within a parking lot.

Such loading and unloading space shall:

(1)

Be an area ten feet by 50 feet, with 15-foot height clearance; and

(2)

Be provided according to the following schedule:

Gross Floor Area in Square	Loading and Unloading Spaces Required in terms of square feet of gross

Feet	floor area (GFA)
5,001 to 30,000	1 space
30,001 to 150,000	1 space plus 1 space for each 30,000 square feet
150,001 to 750,000	5 spaces plus 1 space for each 60,000 square feet in excess of 150,000 square feet
Over 750,000	15 spaces plus 1 space for each 120,000 square feet
Off-Street Loading—Minimum Space Requirements	

For the above uses, with gross floor areas of 2,000 to 5,000 square feet, one loading and unloading space measuring ten feet by 30 feet, with 15-foot height clearance, shall be provided.

(Ord. No. 31A-88, § 20-12.1, 4-8-85; Ord. No. 31A-199, 7-13-99)

Sec. 24-62. - Special provisions for private streets.

(a)

Approval process.

(1)

Generally. Private streets may be permitted for the uses listed in Table 1 below upon approval of the board of supervisors unless otherwise specified and shall be coordinated with existing or planned streets of approved master plans and the Comprehensive Plan. Such approval shall be requested in writing.

Table 1: Zoning districts and uses where private streets may be permitted

Zoning District	A-1, General Agriculture	X	✓	X	X	X
	R-1, Limited Residential	X	X	X	X	X
	R-1, with cluster overlay	X	X	X	X	X
	R-2, General Residential	X	X	X	X	X

		R-2 with cluster overlay	X	X	X	✓	X		
		R-3, Residential Redevelopment	X	X	✓	✓	✓		
		R-4, Residential Planned Community	✓	✓	✓	✓	✓		
		R-5, Multi-Family Residential	X	X	B	B	B		
		R-6, Low Density Residential	X	X	X	X	X		
		R-8, Rural Residential	X	✓	X	X	X		
		LB, Limited Business	X	X	X	X	X		
		B-1, General Business	X	X	X	X	X		
		M-1, Limited Business/Industrial	✓	X	X	X	X		
		RT, Research & Technology	✓	X	X	X	X		
		M-2, General Industrial	✓	X	X	X	X		
		PUD, Planned Unit Development	✓	✓	✓	✓	✓		
		MU, Mixed Use	✓	✓	✓	✓			
		PL, Public Land	X	X	X	X	X		
		EO, Economic Opportunity	✓	✓	✓	✓			
Use	Qualified Industrial Park per Sec. 24-62(a)(2)	Manufactured Home Park per Sec. 24-181	Single-Family Residential	Multi-Family Residential	All uses permitted in zoning district				

✓ : permitted with board approval X: not permitted B: By-right

(2)

## Qualifying Industrial Parks

a.

A "qualifying industrial park" shall be defined as an industrial and/or business park that has an actual or planned size of at least 1,000,000 square feet. The "Qualifying Industrial Park Square Footage Adjustments" shall be applied, to determine the qualifying industrial park square footage in order to determine whether the qualifying threshold can or would be reached. Qualifying square footage is computed by multiplying the existing or planned total square footage by the square footage credit listed in the following chart.

Use	Square Footage Credit
Existing industrial/office/warehouse development	1
Other permitted development	0.75
Planned industrial/office/warehouse development	0.75
Other permitted development	0.5
Qualifying Industrial Park Square Footage Adjustments	

The planned development adjustments listed above shall be applied to undeveloped property zoned Mixed-Use, MU; Limited Business/Industrial District, M-1; General Industrial District, M-2; Research and Technology District, RT; and Planned Unit Development, PUD and allows nonindustrial/office and/or nonwarehouse activity to occur based on master plan projections which have been approved by the board of supervisors. For undeveloped property not subject to a binding master plan the square footage shall be determined by multiplying 0.75 by 25 percent of the net-developable area of the project.

If an industrial/office/warehouse development is proffered exclusively, the existing development adjustments listed above may be applied upon examination of the proffers.

b.

Requests for board approval of private streets in qualifying industrial parks shall include a traffic impact analysis and square footage estimates for the proposed industrial park. The traffic impact analysis shall be in conformance with the submittal requirements of section 24-23. Additionally, the traffic impact analysis shall address internal circulation and capacity.

(3)

Guarantees. The construction of streets whether public or private shall be guaranteed by surety, in an amount and in a form approved by the county attorney.

(4)

To the extent streets are private rather than public, the applicant shall also submit assurances satisfactory to the county attorney that a property owner's community association or similar organization has been legally established under which the lots within the area of the final development plan will be assessed for the cost of maintaining private streets and that such assessments shall constitute a pro rata lien upon the individual lots shown on the development plan.

(b)

Minimum Standards:

(1)

Private streets shown on the development plan shall meet the construction and geometric requirements of the Virginia Department of Transportation and the Administrative Guidelines for Certifications of Private Street Construction, except as specified in paragraph (2) below.

(2)

If the uniqueness of a proposal requires that the specifications for the width, surfacing, construction and geometric design of streets, alleys, ways for public utilities, with associated drainage and specifications for curbs and gutters be subject to modification from the specifications established in chapter 19, the development manager or his designee, within the limits hereinafter specified, may waive or modify the specifications otherwise applicable for a particular private road (or road network) if the specifications are not required in the interests of the residents, occupants, workers, customers of businesses and property owners of the development and that the modifications of such specifications are not inconsistent with the interests of the entire county.

It shall be the responsibility of the applicant to demonstrate to the satisfaction of the development manager or his designee with respect to any requested waiver or modification that:

a.

The waiver or modification shall result in design and construction that is in accordance with accepted engineering standards;

b.

The waiver or modification is reasonable because of the uniqueness of the development or because of the development within which the nature and excellence of design and construction will be coordinated, preplanned and controlled;

c.

Any waiver or modification pertaining to streets is reasonable with respect to the generation of vehicular traffic that is estimated to occur within the area of the development;

d.

Traffic lanes of streets are sufficiently wide enough to carry the anticipated volume and speed of traffic and in no case be less than ten feet wide; and

e.

Waivers or modifications as to base and surface construction of streets and as to the condition of ditches or drainage ways be based upon the soil tests for California Bearing Ratio value and erosion characteristics of the particular subgrade support soils in the area.

The applicant may appeal the decision of the development manager or his designee to the development review committee (DRC).

(Ord. No. 31A-150, 4-5-93; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-255, 11-22-11; Ord. No. 31A-283, 12-11-12)

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### 4.12.6 MINIMUM NUMBER OF REQUIRED PARKING SPACES FOR SCHEDULED USES

Except when alternative parking is approved as provided in section 4.12.8, the following schedule shall apply to determine the number of required off-street parking spaces to be provided in a particular situation. If a particular use is not scheduled, then section 4.12.7 shall apply.

*Assisted living facility.* One space per three (3) beds. (Added 2-5-03)

*Automated teller machines (ATMs):* Two (2) spaces per each outdoor walk-up type. (Added 2-5-03; Amended 3-2-16)

*Automobile service station and truck repair shop:* One (1) space per each employee plus two (2) spaces per each service stall. In addition, when accessory activities such as the rental of automobiles, trucks and trailers of all types exist on the site, there shall be provided suitable area to accommodate the highest number of rental units expected at any one time. (Amended 2-5-03)

*Barber shop, beauty shop:* One (1) space per two hundred (200) square feet of gross floor area plus one (1) space per employee.

*Bed and breakfast:* One (1) space per guest room in addition to the parking required for a single family dwelling. (Added 6-6-12)

*Boarding house:* One (1) space per two (2) beds plus one (1) space per employee. (Amended 2-5-03)

*Building Material Sales:* Repealed 2-5-03

*Campground:* One (1) space per campsite; for group campsites, adequate parking space shall be provided for buses as determined by the zoning administrator.

*Church:* In the development areas identified in the comprehensive plan, if the area of assembly seats more than one hundred persons, one (1) space per three (3) fixed seats or per seventy-five (75) square feet of area of assembly, whichever shall be greater; if the area of assembly seats one hundred persons or fewer, one (1) space per four (4) fixed seats or per seventy-five (75) square feet of area of assembly, whichever shall be greater. In the rural areas identified in the comprehensive plan, the number of proposed spaces shall be shown in a parking study submitted by the church; the number of required spaces shall be determined by the zoning administrator, who shall consider the recommendations in the parking study, traffic generation figures either known to the industry or estimated by the Institute of Transportation Engineers, peak parking demands, and other relevant information. Nothing herein requires the parking study to be prepared by a transportation engineer. (Amended 2-5-03)

*Club, lodge:* One (1) space per three (3) fixed seats or per seventy-five (75) square feet, whichever shall be greater. (Amended 2-5-03)

*Contractor's (construction office, shop, equipment storage and materials yard):* One (1) space per employee assigned to work on-site plus one (1) space per facility vehicle. (Amended 2-5-03)

*Dance Hall:* Repealed 2-5-03

*Day care center, nursery facilities:* One (1) space per ten (10) children enrolled in the major class or shift plus one (1) space per employee. In addition, a pick-up and drop-off area shall be provided on the site. (Amended 2-5-03)

*Dental clinic:* One (1) space per one hundred seventy-five (175) square feet of net floor area. (Added 2-5-03)

*Drive-in lane serving any use:* (Repealed 3-2-16)

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**Drive-in restaurant:** Eighteen (18) spaces per each one thousand (1,000) square feet of gross floor area.

**Dry cleaning:** One (1) space per fifty (50) square feet open to the public plus one (1) space per employee. (Added 2-5-03)

**Dwellings:** (Amended 2-5-03)

**Single family detached (including manufactured homes):** Two (2) spaces per unit, except when the Virginia Department of Transportation requires three (3) spaces to offset the loss of ancillary onstreet parking because a reduced urban street width has been permitted in accordance with the "VDOT Subdivision Street Requirements."

**Multi-family units, including duplexes, single family attached, and townhouses, but excluding student suites:**

<u>Number of Bedrooms/Unit</u>	<u>Parking Spaces/Unit</u>
Any unit of 500 square feet or less	1.25
One (1) bedroom	1.50
Two (2) or more bedrooms	2.00

In addition, if parking is provided on individual lots, such as for duplexes and single family attached townhouses, rather than in lots or bays that are shared by all units in the development, then one (1) guest space per four (4) units shall be provided.

**Student suites:** One and one-quarter (1 1/4) spaces per bedroom.

**Multi-family dwellings for the elderly:** One and one-quarter (1 1/4) spaces per unit plus one (1) space per employee on the largest shift; provided that for a congregate care facility, one (1) space per unit plus one (1) space per employee on the largest shift.

**Eating Establishment:** Repealed 2-5-03

**Fast Food Restaurant:** Repealed 2-5-03

**Feed and seed store:** One (1) space per four hundred (400) square feet of retail sales area. (Amended 2-5-03)

**Financial institution:** One (1) space per one hundred fifty (150) square feet of gross floor area. This requirement may be reduced by twenty-five (25) square feet per drive-in aisle. (Amended 2-5-03; 3-2-16)

**Food store:** One (1) space per two hundred (200) square feet of gross floor area.

**Funeral home:** One (1) space per three (3) fixed seats or per seventy-five (75) square feet area of assembly, whichever shall be greater. (Amended 2-5-03)

**Furniture store and other large sized retail items such as appliances, carpeting, office equipment or specific building materials:** One (1) space per four hundred (400) square feet of retail sales area. (Amended 2-5-03)

**Gift, craft, antique shop:** One (1) space per two hundred (200) square feet of gross floor area; provided that for any area devoted to furniture, parking shall be one (1) space per four hundred (400) square feet of such area.

**Golf Course, Driving Range:** Repealed 2-5-03

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*Greenhouse and nursery:* (Amended 2-5-03)

*Sales area within a greenhouse that is not in conjunction with any other retail sales:* One (1) space per one hundred (100) square feet for the first one thousand (1,000) square feet and one (1) space for each five hundred (500) square feet of greenhouse sales area above one thousand (1,000) square feet.

*Exterior nursery sales area:* One (1) space per each five thousand (5,000) square feet of exterior nursery sales area.

*Hospital:* The number of proposed spaces shall be shown in a parking study submitted by the hospital. The number of required spaces shall be determined by the zoning administrator. In making the determination, the zoning administrator shall consider the recommendations in the parking study, traffic generation figures either known to the industry or estimated by the Institute of Transportation Engineers, peak parking demands, and other relevant information. (Amended 2-5-03)

*Hotel, motel:* One (1) space per guest room; additional spaces shall be required for restaurants, assembly rooms, and other separate uses identified herein. (Amended 2-5-03, 6-6-12)

*Industrial use not otherwise identified:* One (1) space per employee on the largest shift plus one (1) space per five hundred (500) square feet open to the public for customer parking, but in all cases a minimum of two (2) customer parking spaces. (Added 2-5-03)

*Kennel, commercial:* One (1) space per four hundred (400) square feet of gross floor area including runs, plus one (1) space per employee.

*Laundromat:* One (1) space per two (2) washing machines.

*Laundry, Dry Cleaning:* Repealed 2-5-03

*Machinery, Equipment Sales and Service:* Repealed 2-5-03

*Medical and Dental Clinic:* Repealed 2-5-03

*Manufactured home, modular home, travel trailer sales:* One (1) space per three thousand (3,000) square feet of display area. (Amended 2-5-03)

*Motor vehicle sales, including automobiles, farm equipment and trucks:* One (1) space per one thousand five hundred (1,500) square feet of display area. Spaces for customers shall be clearly delineated on the ground, signed and maintained for customers only. (Amended 2-5-03)

*Offices, business, administrative and professional (including medical offices but not dental clinics):* One (1) space per two hundred (200) square feet of net office floor area. The term "net office floor area" shall be deemed to be: (1) eighty (80) percent of the gross floor area; or (2) at the request of the applicant, the actual net office floor area as shown on floor plans submitted by the applicant, delineating the actual net office floor area, which plans shall be binding as to the maximum net floor area used. (Amended 2-5-03)

*Over-the-counter sales:* One (1) space per fifty (50) square feet open to the public or one (1) space per two hundred (200) square feet of gross floor area, whichever shall be greater.

*Printing and publishing facilities, including newspaper publishing:* One (1) space per employee on the largest shift, plus one (1) space per each five hundred (500) feet of floor area open to the public for customer parking, but in all cases a minimum of two (2) customer parking spaces. (Amended 2-5-03)

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*Production or Processing of Materials, Goods or Products:* Repealed 2-5-03

*Production, processing, testing, repairing, or servicing materials, goods or products:* One (1) space per employee on the largest shift plus one (1) space per each five hundred (500) square feet of floor area open to the public for customer parking, but in all cases a minimum of two (2) customer parking spaces. (Added 2-5-03)

*Public assembly (indoor or outdoor) use not otherwise identified:* One (1) space per three (3) fixed seats or one (1) space per seventy-five (75) square feet of place of assembly, whichever shall be greater. "Fixed seats," where the seating consists of pews, benches, bleachers and similar forms of seating, shall be calculated at the rate of one (1) seat per two (2) feet of length. A place of public assembly includes multipurpose areas that may be used either for assembly or recreation, and dance halls that are not accessory to a restaurant. (Added 2-5-03)

*Recreation, commercial and residential:* (Added 2-5-03)

<u>Recreation</u>	<u>Parking spaces required</u>
Baseball field	20 per field
Basketball court	2 per basket
Golf course	4 per hole, plus 1 per employee
Horseshoe pits	2 per pit
Soccer field	24 per field
Skating rink	1 per 200 square feet of rink area
Swimming pool	1 per 125 square feet of water surface
Tennis court	2 per court

For each recreation use not specified above, one (1) space per one hundred twenty-five (125) square feet of useable recreation area.

The minimum number of parking spaces required for a residential recreational facility within a subdivision shall be reduced by the percentage of dwelling units within the subdivision within one-quarter mile of the facility.

*Recreation, public:* The number of proposed spaces shall be shown on a parking study. The number of required spaces shall be determined by the zoning administrator. In making the determination, the zoning administrator shall consider the recommendations in the parking study, traffic generation figures either known to the industry or estimated by the Institute of Transportation Engineers, peak parking demands, and other relevant information. (Added 2-5-03)

*Rest home, nursing home, convalescent home:* One (1) space per four (4) beds. (See also Multi-family dwellings for the elderly.) (Amended 2-5-03)

*Restaurant:* Thirteen (13) spaces per one thousand (1,000) square feet of gross floor area including areas for accessory dancing. (Added 2-5-03; Amended 3-2-16)

*Retail use not otherwise identified:* One (1) space per each one hundred (100) square feet of retail sales area for the first five thousand (5,000) square feet and one (1) space per each two hundred (200) square feet of retail sales area above five thousand (5,000) square feet. For purposes of this paragraph, "retail sales area" shall be deemed to be: (1) eighty (80) percent of the gross floor area; or (2) at the request of the applicant, the actual retail sales floor area as shown on floor plans submitted by the applicant delineating the actual retail sales area, which plans shall be binding as to the maximum retail sales area used. (Added 2-5-03)

*Schools:* The number of proposed spaces shall be shown in a parking study submitted by the school division (public schools) or the school (private schools). The number of required spaces shall be determined by the zoning administrator. In making the determination, the zoning

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administrator shall consider the recommendations in the parking study, traffic generation figures either known to the industry or estimated by the Institute of Transportation Engineers, peak parking demands, and other relevant information. (Amended 2-5-03)

*Service industry:* One (1) space per 50 square feet of net office floor area. (Added 2-5-03)

*Shopping center:* (Amended 2-5-03)

<u>Gross leasable area in square feet</u>	<u>Minimum number of spaces required per one thousand square feet of gross leasable floor area</u>
10,000 to 24,999	5.50
25,000 to 50,000	5.00
50,001 to 200,000	4.75
200,001 to 600,000	4.50
600,001 to 750,000	4.75
750,001 and larger	5.00

*Skating Rink:* Repealed 2-5-03

*Special events:* One (1) space per two and one-half (2.5) participants, plus one (1) space per employee (includes staff, caterers, musicians and vendors). (Added 7-13-05)

*Stable:* Repealed 2-5-03

*Testing, Repairing, Cleaning, Servicing of Material Goods or Products:* Repealed 2-5-03

*Theatre, Drive-In;* Repealed 2-5-03

*Theater, indoors or outdoors:* One (1) space per each three (3) seats. (Amended 2-5-03)

*Tourist lodging:* One (1) space per guest room in addition to the parking required for a single family dwelling. (Amended 2-5-03, 6-6-12)

*Veterinary clinic:* One (1) space per two hundred (200) square feet of gross floor area exclusive of that area to house animals. (Amended 2-5-03)

*Wayside stand:* One (1) space per one hundred (100) square feet of sales or display area.

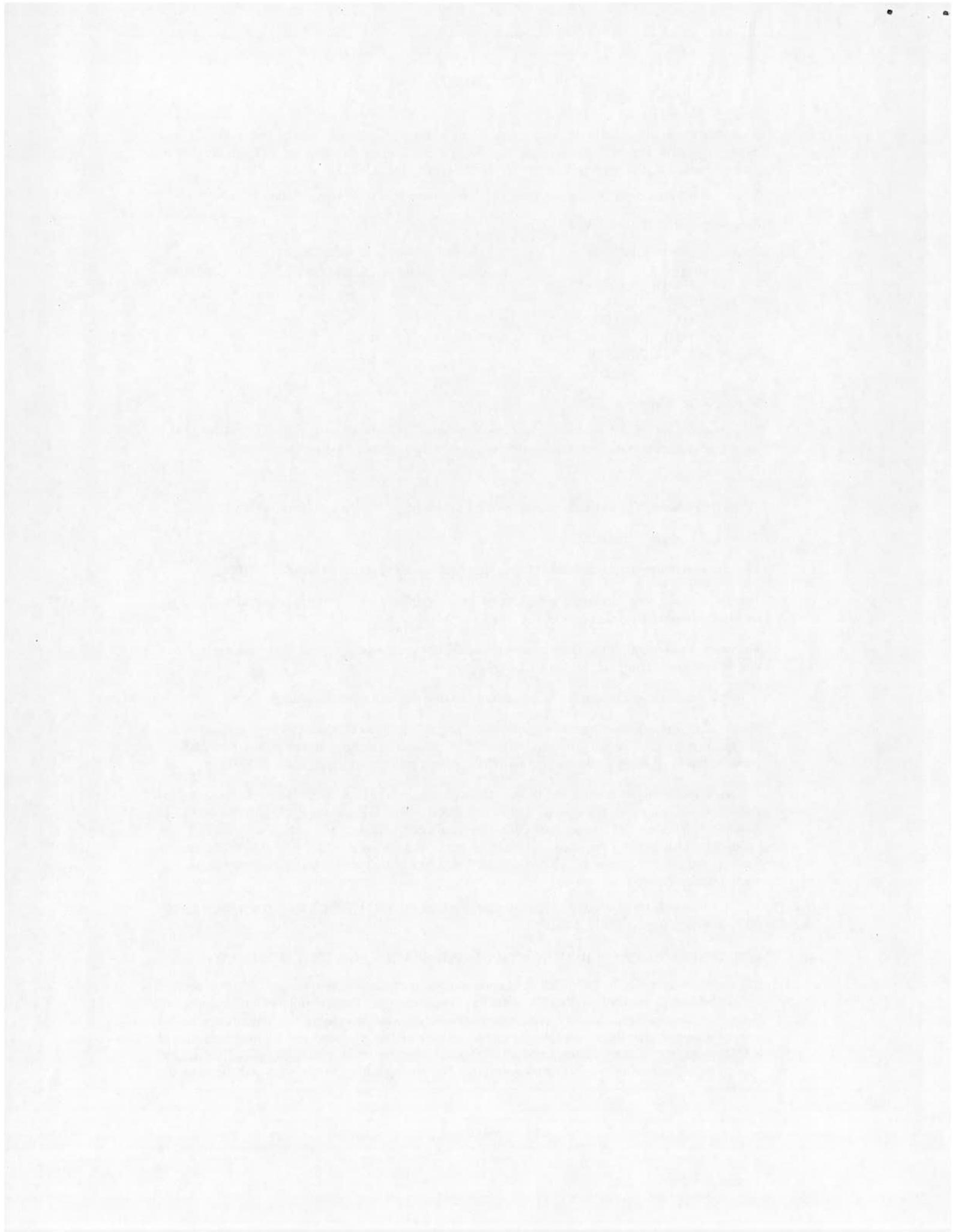
*Wholesaling or warehousing use not otherwise identified:* One (1) space per employee plus one (1) space per each five hundred (500) square feet of floor area open to the public for customer parking, but in all cases a minimum of two (2) customer parking spaces. (Added 2-5-03)

*Wineries, including farm wineries:* If open to the public, one (1) space per two and one-half (2.5) customers for daily use. For special events and festivals, one (1) space per two and one-half (2.5) customers, plus one (1) space per employee (includes winery staff, caterers, musicians and vendors). The parking required for special events and festivals may be considered overflow parking and may be provided in a well-drained, suitably graded area adjacent to required parking area. (Added 2-5-03)

(§ 4.12.6.6.2, 12-10-80; 3-18-81; 7-20-88; 12-5-90; 2-6-02; Ord. 03-18(1), 2-5-03; Ord. 05-18(8), 7-13-05; Ord. 12-18(3), 6-6-12; Ord. 16-18(2), 3-2-16)

**4.12.7 MINIMUM NUMBER OF REQUIRED PARKING SPACES FOR UNSCHEDULED USES**

For uses not specifically identified in section 4.12.6, including mixed uses, or when a conflict exists between possibly applicable schedule requirements, the zoning administrator shall determine the minimum number of required parking spaces. In making this determination, the zoning administrator shall consider the characteristics of the proposed use or uses, anticipated employment, the number of residents and/or visitors, the minimum parking required for similar uses or mixes and other relevant considerations. The zoning administrator shall also consider the following:



**ITEM SUMMARY**

DATE: 4/14/2016

TO: The Policy Committee

FROM: W. Scott Whyte, Senior Landscape Planner II, and Ellen Cook, Senior Planner II

SUBJECT: Proposed Zoning Ordinance Revisions for Electric Vehicle Charging Stations

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**ATTACHMENTS:**

	Description	Type
▣	Staff Report	Cover Memo
▣	Alternative Fueling Station Locator Map	Backup Material
▣	Richmond Electric Vehicle Initiative, Electric Vehicle Readiness Plan	Backup Material
▣	James City County Parking Ordinance	Backup Material

**REVIEWERS:**

Department	Reviewer	Action	Date
Policy	Rosario, Tammy	Approved	4/8/2016 - 10:04 AM
Policy	Holt, Paul	Approved	4/8/2016 - 10:11 AM
Publication Management	Boles, Amy	Approved	4/8/2016 - 10:13 AM
Policy Secretary	Secretary, Policy	Approved	4/8/2016 - 11:52 AM

## MEMORANDUM

DATE: April 14, 2016

TO: The Policy Committee

FROM: Scott Whyte, Senior Landscape Planner II  
Ellen Cook, Senior Planner II

SUBJECT: Zoning Ordinance Revisions for Electric Vehicle Charging Stations (EVCS)

---

### **Background**

James City County does not have a Zoning Ordinance requirement that directly addresses electric vehicle charging stations (EVCS); however, electric vehicle ownership is on the rise. Nationwide sales of electric vehicles have risen from 90,000 cars in 2013 to over 116,000 in 2015. The Williamsburg area has two publicly accessible EVCS. One is located in New Town and the other is in the Prince George parking garage in Williamsburg. The attached Alternative Fueling Station Locator Map shows that most of the EVCS in Virginia are located in northern Virginia with clusters in Richmond and Virginia Beach. Localities are quickly adopting ordinance regulations to meet this rising demand. As interest in installing EVCS in James City County is likely to grow, staff believes it would be helpful to address it more directly in the Zoning Ordinance to provide clear guidance.

Different localities have undertaken various approaches to preparing for the needs of electric vehicle owners. The approaches vary from just establishing EVCS as accessory uses to off-street parking to enable the installation of EVCS to a complete overhaul of the Zoning Ordinance, building codes and enforcement codes. Regional electric vehicle infrastructure planning which includes incentives and public information are also being addressed. Staff reviewed two existing ordinances for EVCS from Atlanta and Kansas City. Both of these are examples of localities who have only amended their ordinances to allow for the installation of EVCS. The City of Richmond's Electric Vehicle Initiative (REVi) (Attachment No. 2) is a comprehensive look at establishing a commitment to providing regulations to enable EVCS installation, promote EVCS installations and plan for regional EVCS infrastructure.

The 2035 Comprehensive Plan also lends support to this possible ordinance amendment through goals, strategies and actions in the Transportation and Public Facilities sections. Transportation Action T 3.6, "Continue to identify and implement changes to the transportation system that improve air quality" supports this initiative, as does Public Facilities PF 4.4 which advocates utilizing energy efficient vehicles and equipment.

Updating the Zoning Ordinance to account for EVCS as an accessory use to off-street parking was proposed as part of the Planning Division's 2015-2016 work program at the October 2015 Policy Committee meeting. Staff is proposing to evaluate this item in a multiple stage process similar to review of ordinance amendments proposed after adoption of the 2009 Comprehensive Plan. In Stage I (the subject of this staff memorandum), staff will identify issues and possible directions for the proposed amendment. Later, following the April 14, 2016 meeting, in Stage II, staff will provide the Policy Committee with a proposed draft ordinance for discussion. Lastly, in Stage III, staff will draft the final ordinance accounting for any Policy Committee comments.

### **Proposed Changes to Definitions**

Staff proposes adding electric vehicle charging-related definitions to Chapter 24 Article I in General, Section 24-2. At this time staff believes that it would be helpful to add a definition(s) that encompass the three types of EVCS and consider other definitions as staff works through the ordinance revision. There are three levels of EVCS. Level 1 EVCS run on 120-volt ground-fault indicator outlets and can charge a vehicle in 14 to 21 hours. Most installations are in residential settings and are covered under current building codes. Level 2 EVCS run on 220-volt commercial-grade charging systems and can charge a vehicle in six to eight hours. Most current building codes allow this type of electrical hookup. Level 3 EVCS run on a 480-volt commercial-grade charging system and can charge a vehicle in as little as 30 minutes. Most building codes restrict this type of charger for residential settings.

### **Proposed Changes to Special Regulations**

Staff proposes adding a new section to Chapter 24, Article II. Special Regulations, Division 2. Highways, Streets, Parking and Loading, to outline regulations for EVCS. Staff proposes the following items be included.

1. *Use:* Public EVCS shall be permitted as accessory uses to off-street parking allowed for non-residential uses in all Zoning districts.

*Staff comment:* Most localities that have adopted EVCS ordinance requirements have inserted the regulations into existing parking ordinances. Staff believes that this is the most efficient way to allow EVCS to be installed for commercial uses. Placing EVCS as an accessory to parking makes it possible to not amend the use list in all affected districts. Staff also believes that due to the current level of demand for these facilities in James City County, the County should first adopt regulations that allow for the installation of EVCS in the County and then later look into infrastructure planning and promoting EVCS as needed.

2. *Parking Minimums:* Designated electric vehicle parking spaces shall be eligible for inclusion into the calculation of parking minimums.

*Staff comment:* It is staff's desire to facilitate the installation of EVCS. Allowing developers to count these spaces toward the parking minimums will ensure that parking minimums do not inadvertently become a hindrance to developers wishing to provide EVCS.

3. *Americans with Disabilities Act (ADA) Accessibility:* Requires at least one ADA accessible EVCS for every parking lot that contains EVCS.

*Staff Comment:* Staff is supportive of requiring ADA accessibility for EVCS. The Federal Access Board's ADA Accessibility Guidelines recommend a ratio of 1:50 as shown on Table 4 of the REVi Readiness Plan. Given the smaller scale of request expected in James City County, however, staff recommends the simpler approach of requiring one ADA accessible space for each parking lot containing EVCS. These spaces would not be signed or reserved for exclusive use for persons with disabilities.

4. *Screening:* All EVCS facilities shall be concealed from outside of the parking area with landscaping, fencing or berming. Required parking lot landscaping may be utilized, but extra shrubs may be required to adequately screen the facility as determined by the Director of Planning or his designee.

5. *Staff Comment:* Staff recommends using existing parking lot landscape requirements to address the need to screen these facilities from the outside of parking lots. Allowing existing landscape requirements to be used will help applicants by streamlining the regulations and associated costs.
6. *Lighting:* All EVCS facilities shall have adequate lighting if the facility is to operate at night to promote safe and efficient operation of the facility during all operating hours.

*Staff Comments:* All parking lots in James City County that operate at night are required to provide adequate lighting for the parking lot and this should accommodate EVCS as well; however, if the Director of Planning or his designee finds that the existing lighting is not adequate for the safe operation of the facility, additional lighting may be required.

### **Recommendation**

Staff is proposing the following changes to the Zoning Ordinance based on the above analysis.

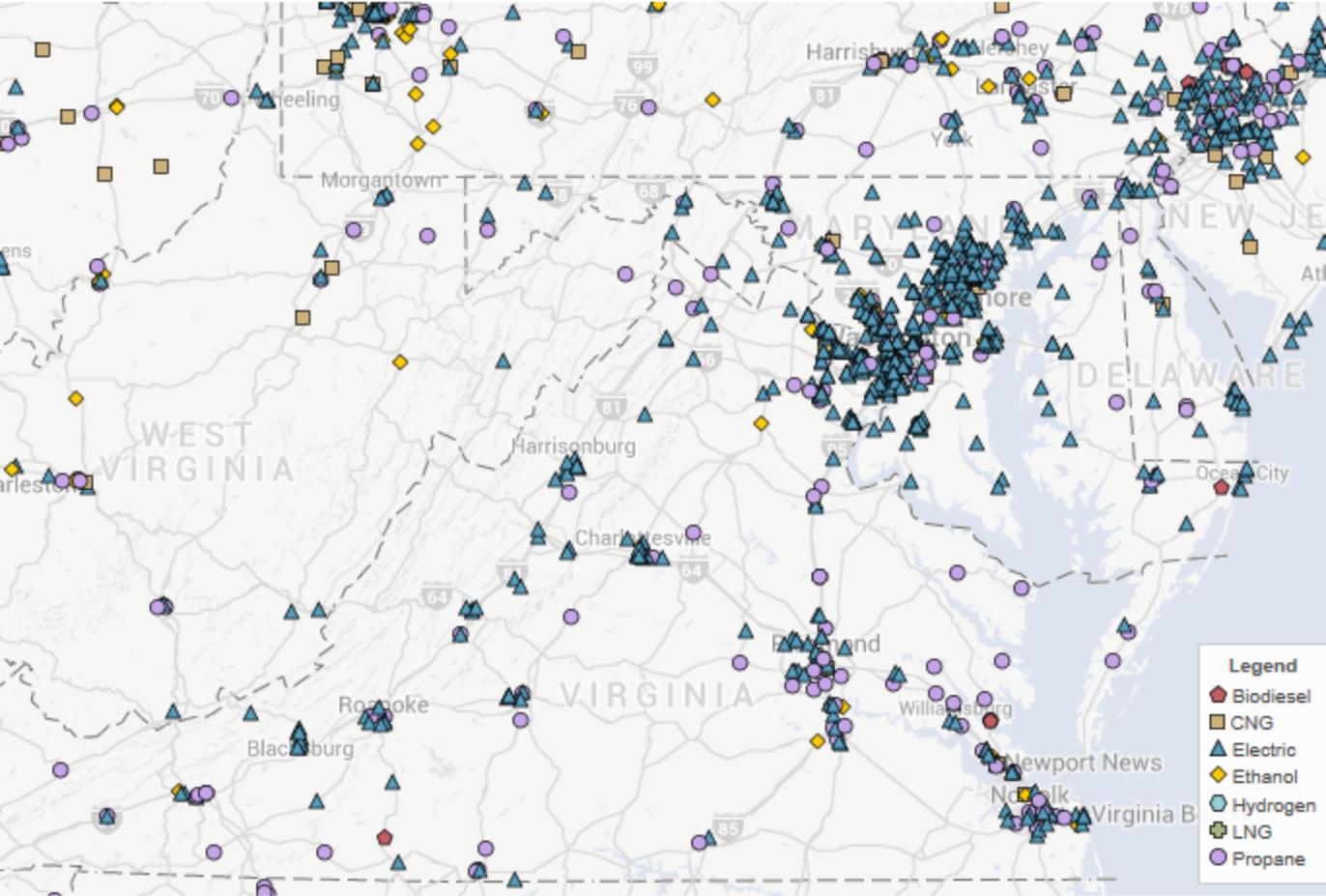
1. Staff recommends adding several definitions to the ordinance to address the new terms that EVCS will add to the ordinance.
2. Staff proposes add a new Section to Chapter 24, Article II. Special Regulations, Division 2. Highways, Streets, Parking and Loading to state regulations for EVCS. Public EVCS shall be permitted as accessory uses to off-street parking allowed for non-residential uses in all Zoning districts.

Staff seeks Policy Committee guidance on the above discussion and recommendations. Based on input received at this meeting, staff will translate these into ordinance form and provide the draft for review at the July Policy Committee meeting.

SW/EC/nb  
ZORevEVCS-mem

### **Attachments:**

1. Alternative Fueling Station Locator Map
2. Richmond Electric Vehicle Initiative, Electric Vehicle Readiness Plan
3. James City County Ordinance





# Richmond Electric Vehicle Initiative

## Electric Vehicle Readiness Plan

March 2013



**Project Funded By:** US Department of Energy

**Funding Awarded To:** Virginia Department of Mines, Minerals and Energy  
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# Executive Summary

## Setting the Stage: The Richmond Region's Case for EVs

Adoption of electric vehicles (EVs) is becoming a reality in the Richmond Region and throughout the Commonwealth of Virginia. The region is well-positioned geographically and economically to participate in this emerging transportation technology. Embracing EV use in Virginia will assist statewide efforts to reduce vehicle emissions, increase energy independence, and generate positive economic development for the Commonwealth.

Virginians spend \$13 billion each year on petroleum for transportation. Electricity represents a less expensive, cleaner, and locally generated energy source that also contributes to new economic advantages. The energy industry research group PRTM Management Consultants has estimated that vehicle electrification could represent more than \$250 billion in economic development opportunities worldwide by 2020. This estimate considers growth in electricity generation and distribution, grid and infrastructure investments, batteries and their components, vehicle sales, and associated advertising and marketing services.

## The Opportunity

Virginia's economy is already benefiting from the electric vehicle value chain. Local companies make batteries, battery components, motors, charging stations, and entrepreneurial wireless charging technology. Companies in Virginia also design, manufacture and deploy electric vehicles, and convert vehicles to plug-in hybrids and battery electric vehicles. Virginia entities are researching vehicle conversions, assessing charging capacity, reviewing financial strategies, and considering roles in jump-starting vehicle adoption and infrastructure deployment to further benefit our local economy.

The Richmond Region is at the forefront of emerging transportation modes and technologies, and is particularly supportive of EVs. For example, Ford Motor Company selected Richmond as one of the nineteen US cities to launch its first electric car, the Focus Electric; and the area has seen many other EVs come to market since then. Dominion Virginia Power is piloting time-of-use rates to encourage off-peak EV charging.

## Barriers

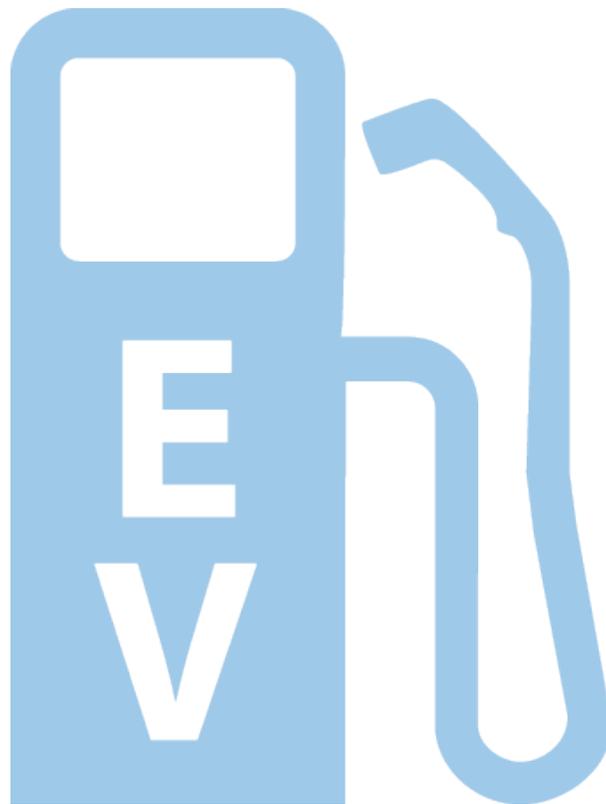
Barriers to the adoption of EVs include misconceptions about vehicle technologies, the need for more EV charging infrastructure, and the need for common guidelines that support an easily understood, regional deployment of EV infrastructure. Through the Richmond Electric Vehicle Initiative (REVi), teams formed to address these barriers. After researching existing conditions, the teams analyzed the technological, regulatory, and educational needs to implement this plan.

## The Richmond Region's EV Readiness Plan

Richmond's commitment to advancing emerging, cleaner fuels is evident through its participation in the US Department of Energy's *Clean Cities Community Readiness for Plug-In Electric Vehicles and Charging Infrastructure* program. The REVi plan for plug-in EVs and charging infrastructure details a pathway for advancing the region as an attractive and sustainable market for EV technology and demonstrates the progress made to date.

The REVi plan first sets the context for the electric vehicle market in the Richmond area and then addresses five main topics:

1. A regional plan and underlying strategy for deployment of EV charging stations.
2. Zoning, codes and permitting tools identified to foster deployment of electric vehicles provide safety and convenience to the public.
3. An analysis of existing and potential policies.
4. A report on pilot programs and other opportunities that documents recent work completed, work underway, and new ideas for action.
5. Documentation of over a dozen approaches to education and outreach already undertaken and recommendations for future outreach and training.



# Key Recommendations

## Organizational

- Facilitate an advisory board of representatives from organizations with a stake in EV and infrastructure deployment. The advisory board provides technical expertise and assists with promotion of plan recommendations.
- Facilitate and engage a diverse list of partner organizations to strategize and provide input throughout all planning sectors.

## Codes, Permitting and Site Installation

- Support creation of a basic network of EV charging stations throughout the Richmond Region.
- As a building permit requirement for new parking facilities, require that a percentage of the parking spaces include EV charging stations or conduit for future EV charging stations. The percentages would vary according to land use type as detailed in the REVi report.
- Concentrate higher numbers of EV charging stations where most population density, development, and jobs will be located.
- Strive for common regional zoning and development guidelines using examples found in this report.
- Adopt unified signage for locating and identifying charging stations, and regulating EV parking.

## Policy and Incentives

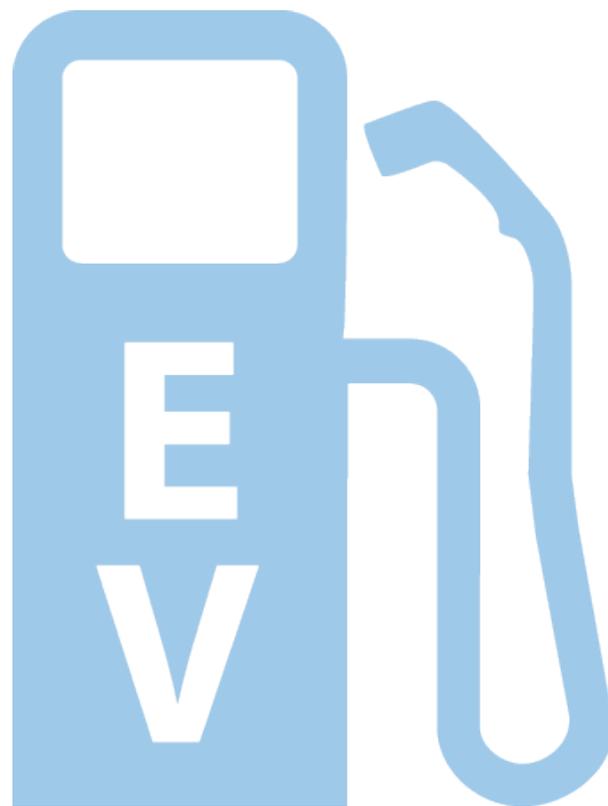
- Support tax credits that advance EV and infrastructure purchases and deployment.
- Encourage adoption of regulations that enable public and private EVSE providers to charge for their service.
- Support HOV lane exemptions for EVs.
- Support regional funding of publicly accessible EVSE in key locations around the Richmond metropolitan area.
- Include the cost of EVSE materials and installation in vehicle financing arrangements from vendors.
- Support time-of-use charging and other special rate strategies that advance EV deployment.

## Education and Outreach

- Create and carry out a coordinated outreach strategy to inform and motivate people to adopt the emerging technology.
- Target outreach to businesses and government agencies to promote installation of workplace charging stations.
- Utilize social media to create a community of advocates.
- Establish an earned media campaign including public events and testimonials from early adopters to take the EV message to the public at-large.

- Establish and promote training programs for the automotive industry, first responders, corporations and the general public.
- Market the EV message by creating a local video, handouts and other materials to present at meetings and on public access services including cable networks and Internet.

As this Clean Cities sponsored project concludes, our stakeholder coalition is ready to move forward using the information developed and promote action on these key recommendations. The Richmond Region is the first area in Virginia to develop an EV deployment plan. It is the hope of REVi that these recommendations become a framework that benefits localities across the Commonwealth while they enact their own unique plug-in electric vehicle and infrastructure planning.



# Project Overview

A consortium of organizations in the Richmond, Virginia region established the Richmond Electric Vehicle Initiative (REVi) with the goal of fostering full-scale EV adoption. The Greater Richmond Region is at the forefront of emerging transportation modes and technologies, and is particularly supportive of EVs. This is evident through REVi's pursuit and award of the US Department of Energy Clean Cities' Community Readiness and Planning for Plug-in Electric Vehicles and Charging Infrastructure project, which has funded the work presented in this document. This community readiness and planning project is intended to facilitate the adoption of EVs and associated infrastructure in the Richmond Region and to serve as an example for other communities. The area covered by the REVi project is shown in Figure 1, as well as the Crater Planning District localities.



Figure 1: Area Covered by the Richmond Electric Vehicle Initiative

The resulting work has advanced planning for the Richmond Region as an attractive and sustainable market for EVs, established the educational groundwork for EV adoption, and developed a regional strategic plan that identifies and fosters policies to expedite EV infrastructure implementation specific to the Richmond Region.

EV deployment in Virginia will assist statewide efforts to reduce vehicle emissions, increase energy independence, and generate positive economic development for the Commonwealth. This plan is a critical milestone in moving the Commonwealth one step closer to a balanced energy portfolio for transportation.

## Process Overview

This project was made possible by funding through the US Department of Energy's Clean Cities Program. The Virginia Department of Mines, Minerals and Energy was the prime award recipient, with Virginia Clean Cities serving as the award administrator and overall program manager. A nine-member Advisory Board focused on program goals while several working groups and technical advisory groups addressed plan development.

The program assembled significant partnership. It started with over 50 engaged organizations and increased substantially throughout the project. Stakeholder groups participated in many forums to help conduct studies and analyses, as well as plan and implement project objectives. Localities represented in REVi include the Town of Ashland, the City of Richmond, and the counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent and Powhatan, as defined by the Richmond Regional Planning District Commission. Other nearby localities, including the Crater Planning District Commission municipalities, participated in project efforts.

### Advisory Board

Virginia Clean Cities created a REVi Advisory Board, bringing together representatives from the Department of Mines, Minerals and Energy, City of Richmond, Dominion Virginia Power, Richmond Regional Planning District Commission, J. Sargeant Reynolds Community College, the Sustainable Transportation Initiative of Richmond, Virginia Commonwealth University and Urban Grid Solar. This advisory board facilitated achievement of program goals by providing input on key success factors, program direction and decision points.

### Working Groups

Members of the REVi Advisory Board also led the four project working groups, described below.

#### *Codes and Permitting Working Group:*

This working group, convened by the Richmond Regional Planning District Commission (RRPDC), addressed potential barriers associated with the installation of charging stations, specifically related to building codes, standards and processes. Their contributions included permitting process documentation and codes recommendations.

#### *Sites and Installation Working Group:*

The RRPDC led this working group. It focused on the issues and tasks necessary to install a charging station, from the technical to the managerial. The working group also participated in planning for future EV infrastructure.

#### *Education and Training Working Group:*

J. Sargeant Reynolds Community College (JSRCC) led the Education and Training Working Group. The purpose of this group was to manage the knowledge gained through this project and to disseminate it to appropriate partners, stakeholders and the general public through various channels. This group ensured that an accurate and consistent message was presented at all times to dispel misinformation and to inform the public about EVs. They also assisted with specialized training and education, in coordination with JSRCC, for mechanics, first responders and private organizations.

*Policies and Incentives Working Group:*

This working group was led by Dominion Virginia Power. The group developed a list of relevant policies and incentives (both monetary and non-monetary) that have the capacity to promote EV deployment. They then provided research and analysis for those with the greatest potential for implementation.

*Technical Advisory Partners:*

Technical advisory partners included EVSE and vehicle manufacturers, component manufacturers, third party providers, utility regulatory authorities, fleet managers, and many government agency partners.

## The Electric Vehicles

This report focuses on plug-in EVs, examples of which are shown in Figure 2 alongside a hybrid electric vehicle (HEV). EVs include both battery electric vehicles (BEVs) that run entirely on electricity and plug-in hybrid electric vehicles (PHEVs) that operate using both an internal combustion engine and an electric motor.

While this document primarily addresses planning for full sized electric vehicles, smaller Neighborhood Electric Vehicles, or Low Speed Electric Vehicles (LSVs) represent another option. These vehicles do not need additional robust charging infrastructure. Normal 120-volt circuits are generally sufficient. They serve ideally for many specifically defined tasks such as parking enforcement, security, downtown shopper shuttles, and maintenance in closed areas such as college campuses, hospital grounds, and apartment complexes. Many of these tasks are currently served by old pickup trucks and vans that are high-emission vehicles. Replacing these with small electric vehicles may have a quick payback time and make a significant reduction in carbon footprint. Certain individuals are also likely to consider LSVs instead of full size cars for in-town commuting.

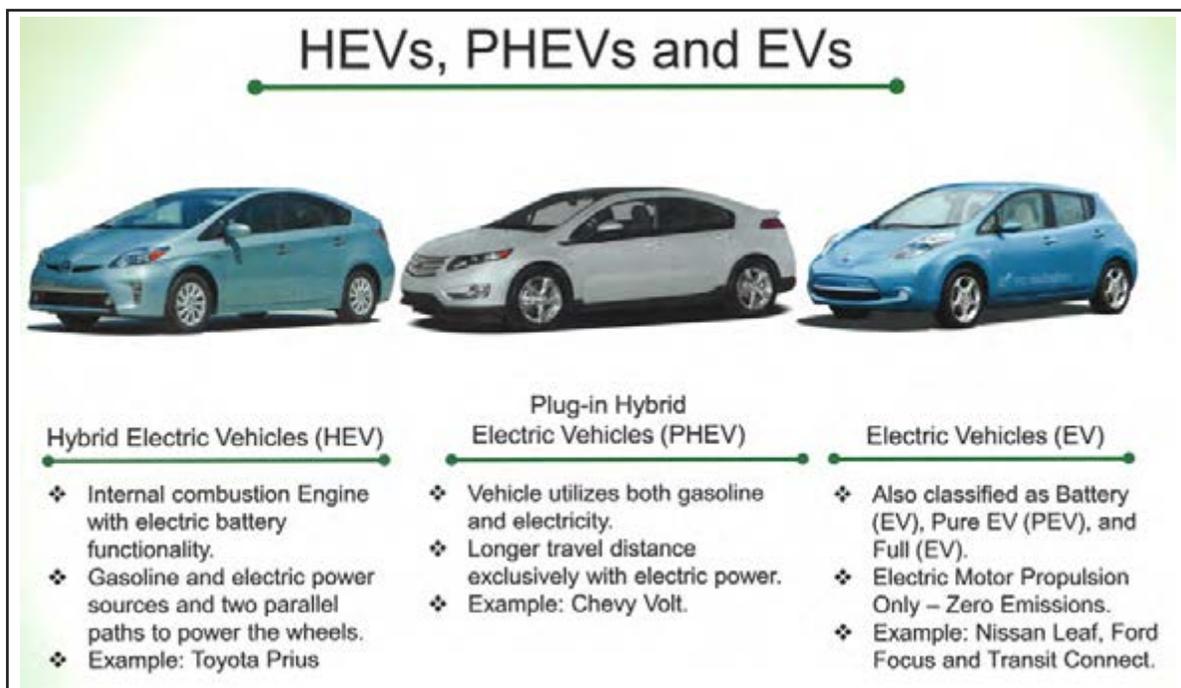


Figure 2: Electric Vehicle Types

## EV Charging Infrastructure

Level 1 and Level 2 electric vehicle supply equipment (EVSE) are currently the most prevalent means for charging EVs in the Richmond area. Figure 3 shows this type of equipment along with an example of a DC Fast charger.



Figure 3: Electric Vehicle Supply Equipment

AC Level 1 charging utilizes a common 120-volt circuit and grounded electrical receptacle (NEMA 5-15R or 20R), while AC Level 2 charging uses a dedicated 208 to 240-volt circuit. Both AC Level 1 and Level 2 equipment supply power to a charger located on board the vehicle. Both Level 1 and Level 2 charging use a Society of Automotive Engineers (SAE) standard J1772 connector to attach the EVSE to the vehicle.

DC fast charging (both levels 1 and 2) has a dedicated direct current (DC) circuit to provide power from an off-board charger to the electric vehicle. Most models of EVs are capable of DC fast charging currently utilize a Japanese "CHAdeMO" connector to supply power to the vehicle. The SAE recently adopted a different standard connector for the US. Three major US automobile manufacturers and five manufacturers from Europe plan to support this "J1772 combo connector" (Ponticel, 2012).

Additional information on these standards is given in Table 1 (SAE Hybrid Committee, 2011):

Charging Type	Power	BEV Charging Time
AC Level 1	120V single phase	17 hours <sup>1</sup>
AC Level 2	240V single phase up to 80 Amps	3.5-7 hours <sup>1</sup>
DC Level 1 DC Fast Charging	200-450Vdc 3 Phase up to 80 Amps	1.2 hours <sup>1</sup>
DC Level 2 DC Fast Charging	200-450Vdc 3 Phase up to 200 Amps	20 minutes <sup>1</sup>

<sup>1</sup>Charging time depends on battery size, on-board charging capacity and starting battery charge level.

Table 1: SAE Standardized Charging Levels

## EV Charging Scenarios

### Home Charging

Most EV charging is expected to occur at home. A recent quarterly report from the EV Project indicates that the Nissan Leafs associated with the project are being charged at residences between 70 percent and 90 percent of the time, with the variability based on geographic region.

Home charging creates the ability to charge at off-peak rates, such as overnight. The potential economic benefits to drivers are likely to encourage home charging in the REVi study area. Dominion Virginia Power, the regulated investor-owned electric utility that provides electric service to the majority of the Richmond Region, is offering two experimental time-of-use rates for residential EV charging. Both rate options are designed to encourage off-peak charging in an effort to avoid contributing to peak load and overloading local distribution circuits.

One rate option, Schedule EV, is for EV-charging only and requires a separate meter. A customer can recharge his or her EV for as little as 54 cents per night for a 40-mile commute. The second rate option, Schedule 1EV, is a whole-house rate that relies on a single meter to measure all electricity usage associated with the entire house. A customer can recharge an EV for as little as 51 cents per night for a 40-mile commute.

### Workplace Charging

Most vehicles spend the majority of their time away from home parked at a place of employment, often for eight to ten hours per day. Although not a replacement for publicly accessible EVSE, expanding workplace charging availability may help speed adoption of EVs. Vehicles sitting unused for several hours at a time provide an excellent charging opportunity. Furthermore, longer charging periods increase the likelihood that Level 1 charging will suffice. Many employers may have existing 120-volt receptacles and power capacity available, but even the installation of new circuits and receptacles should be considerably less expensive than installing Level 2 EVSE. REVi has a special interest in supporting the growth of workplace charging.

## Public Charging

Public EV charging needs to be located at destinations where people typically spend one or more hours. Public charging destinations can be broken into several categories:

- Transportation destinations such as public parking structures, airports, park-and-ride facilities, and multi-modal centers
- Entertainment and shopping destinations like shopping malls, movie theaters, museums and civic centers
- Recreation destinations such as public parks, mixed-use sports complexes, stadiums, trail facilities, marinas and golf courses

## DC Fast Charging

For EVs traveling outside their typical battery range, DC fast charging provides convenience and fueling assurance. Typical applications for DC Fast Charging include but are not limited to:

- Conventional fueling stations
- Vehicle fleet centers
- Automotive sales dealerships
- Travel centers and truck stops
- Industrial parks
- High-density residential areas
- Commercial and office centers
- Government and institutional facilities

## Barriers

One of the single greatest barriers to EV adoption in the Richmond Region is public misconception. Experiences at outreach events and opinion polls continue to show that more education is needed. The general driving public is underexposed to positive information about benefits of driving an EV. Misconceptions related to the following are prevalent in the region:

- Upfront costs are incorrectly over-estimated, primarily because costs are rapidly dropping. Many people are also unaware of current tax incentives.
- While most trips in the region fall well within the battery range of an EV, range is a concern.
- People who have not test driven an EV can have negative attitudes about drivability.
- The technology can be misunderstood causing some to be wary of safety and performance.

Apart from misconceptions, the need for a basic network of EV charging stations throughout the greater Richmond area represents a major barrier to adoption. Drivers will feel more comfortable with a safety net of charging stations to accommodate a wide variety of trip locations and types.

Finally, deployment will be advanced by common systems created by codes and policies that support regional uniformity. The comfort level of consumers will rise with common signage, site layouts, and regulations that govern behavior. For example, is parking for EVs exclusively for charging? Will an internal combustion engine (ICE) vehicle be fined or towed?

# EV Deployment in Richmond Area

As of September 2012, Department of Motor Vehicles (DMV) records showed 56 EVs and PHEVs registered in the Richmond Region. Statewide, the DMV counted 865 EVs and PHEVs during the same period. Regional growth in EV registrations for February through September 2012 amounted to 400 percent. State growth is further confirmed by January DMV registration numbers showing over 1,000 EVs and PHEVs statewide, indicating the importance of addressing EV infrastructure needs.

The following section uses current regional socioeconomic data, regional growth plans, and existing hybrid and EV registrations to predict the distribution of EVs in the Richmond Region over time. It discusses factors about EV technology, trip types, and driving behavior to plan the needed EV charging infrastructure that supports deployment.

## Existing EV Infrastructure

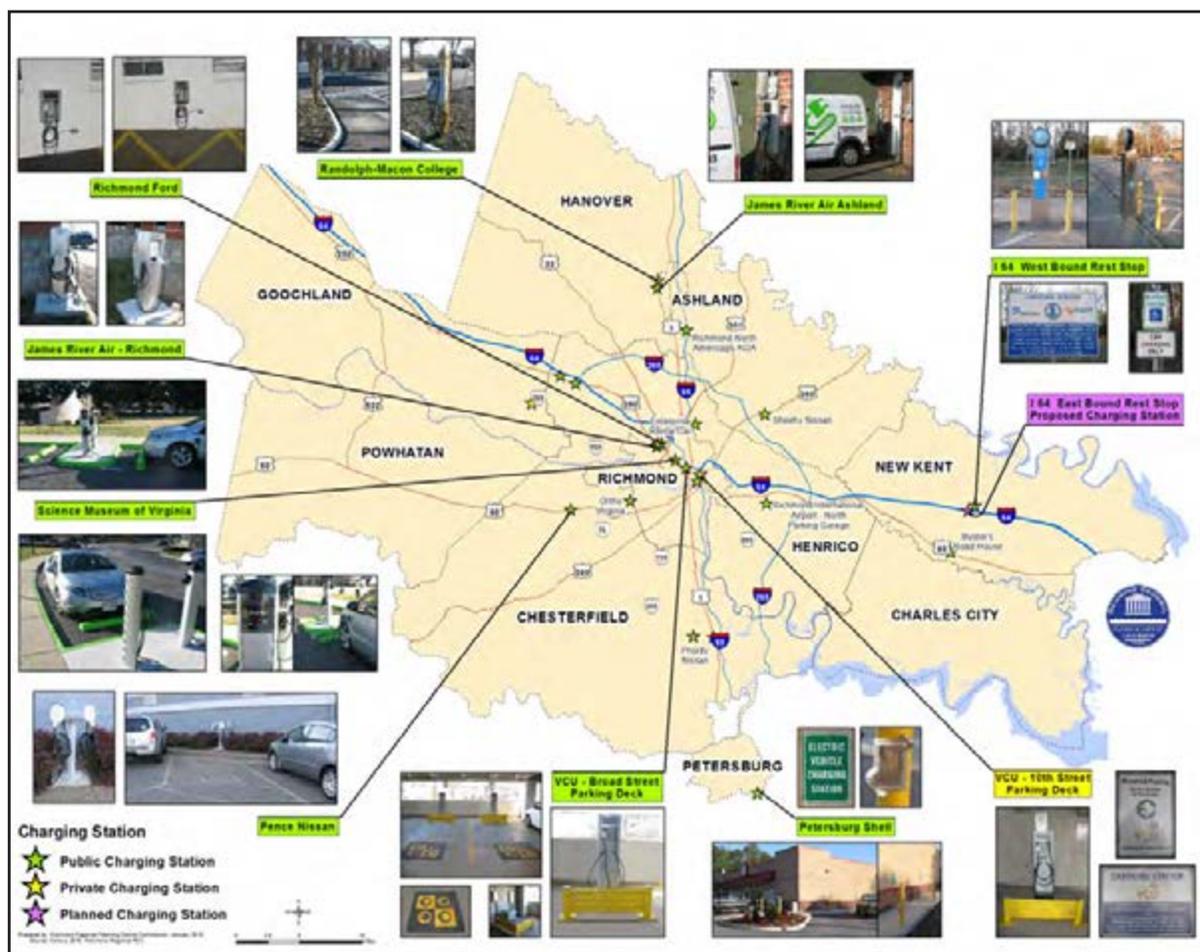


Figure 4: Existing EV Charging Stations

An April 2012 survey of statewide EV charging stations from the US Department of Energy Alternate Fuels & Advanced Vehicles Data Center website shows that there were 146 public and private EV charging station locations statewide. Each EV charging station has “charge points” representing the number of accessible energy transfer outlets at any physical station location. The Richmond Region and Crater Region have approximately 20 EV charging stations with about 28 charge points (See Figure 4).

## Plans for EV Infrastructure Deployment

According to 2010 records, approximately 1 million vehicles were registered in the REVi study area, of which over 700,000 were passenger vehicles. If five percent of passenger vehicles were to run on electricity, that would amount to over 35,000 EVs.

A basic network of EV infrastructure in the REVi study area is the first priority in planning infrastructure deployment. That is, the public needs to feel safe about the technology and have basic access to charging. Next, deployment plans need to address the accelerating rates of EV adoption and concentration of EV charging stations where people are most likely to recharge. Initial Virginia EV planning suggests that most charging events will occur in residential locations, followed by the workplace and public settings, respectively.

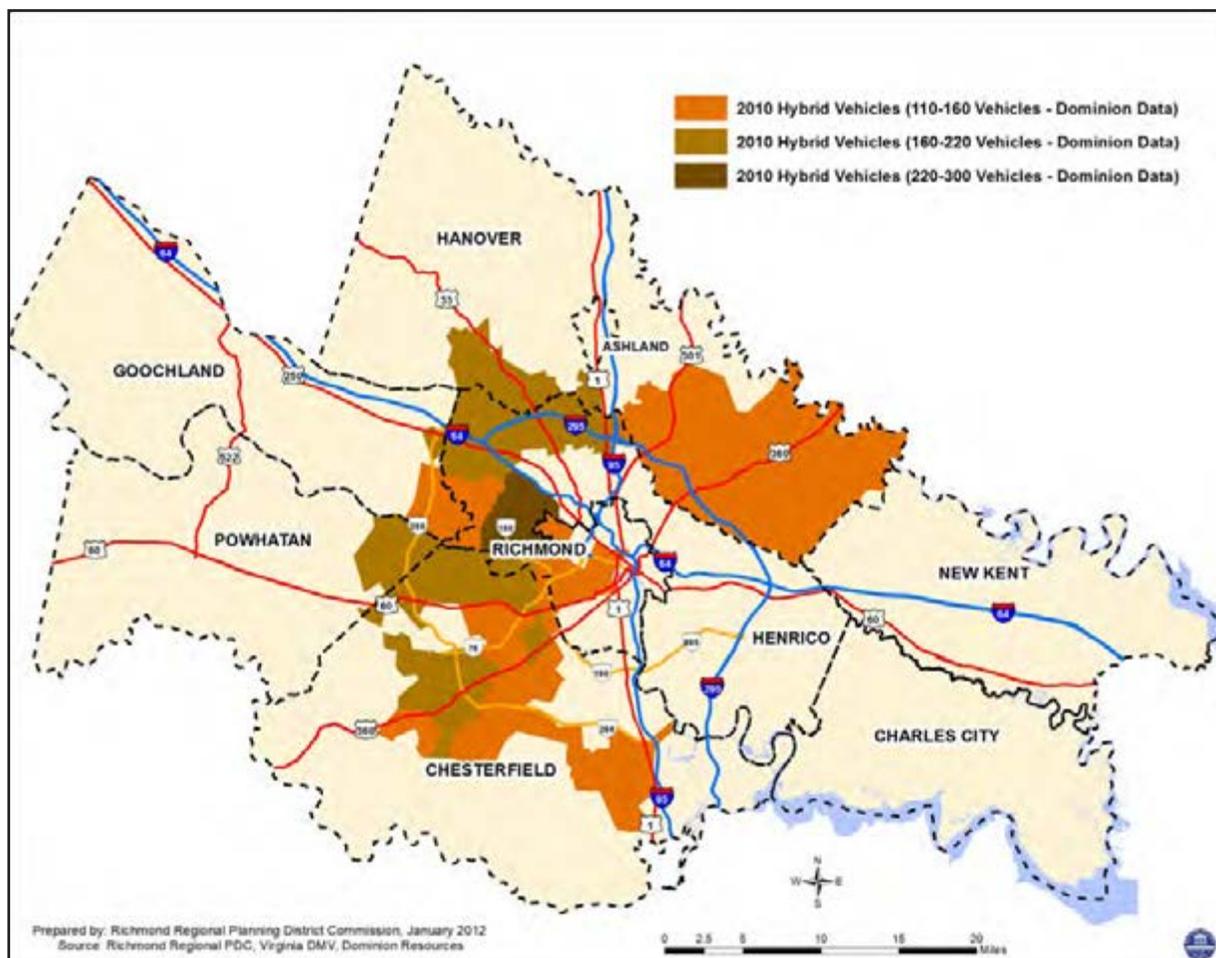


Figure 5: Year 2010 HEV Registrations

This analysis uses demographic data and vehicle registrations for hybrid vehicle owners to determine concentrations of likely EV purchasers. Hybrid vehicle customers represent a demographic group that is familiar with EV technology and would likely purchase another energy efficient vehicle – more so than a conventional ICE vehicle owner. Therefore, the REVi team obtained Year 2010 HEV registration data from the Virginia DMV and mapped concentrations of HEV owners as shown in Figure 5.

Data from September 2012 HEV registrations combined with PEV registrations show an increasing geographic spread of EV and HEV ownership that is still concentrated in suburban areas north, east, west, and southwest of the downtown area as shown on Figure 6. In zip codes with the highest concentrations of HEVs, 2012 DMV data shows an increase of HEV by approximately 129 percent between February and September. For EVs and PHEVs, the region saw an increase of 400 percent over the same time period.

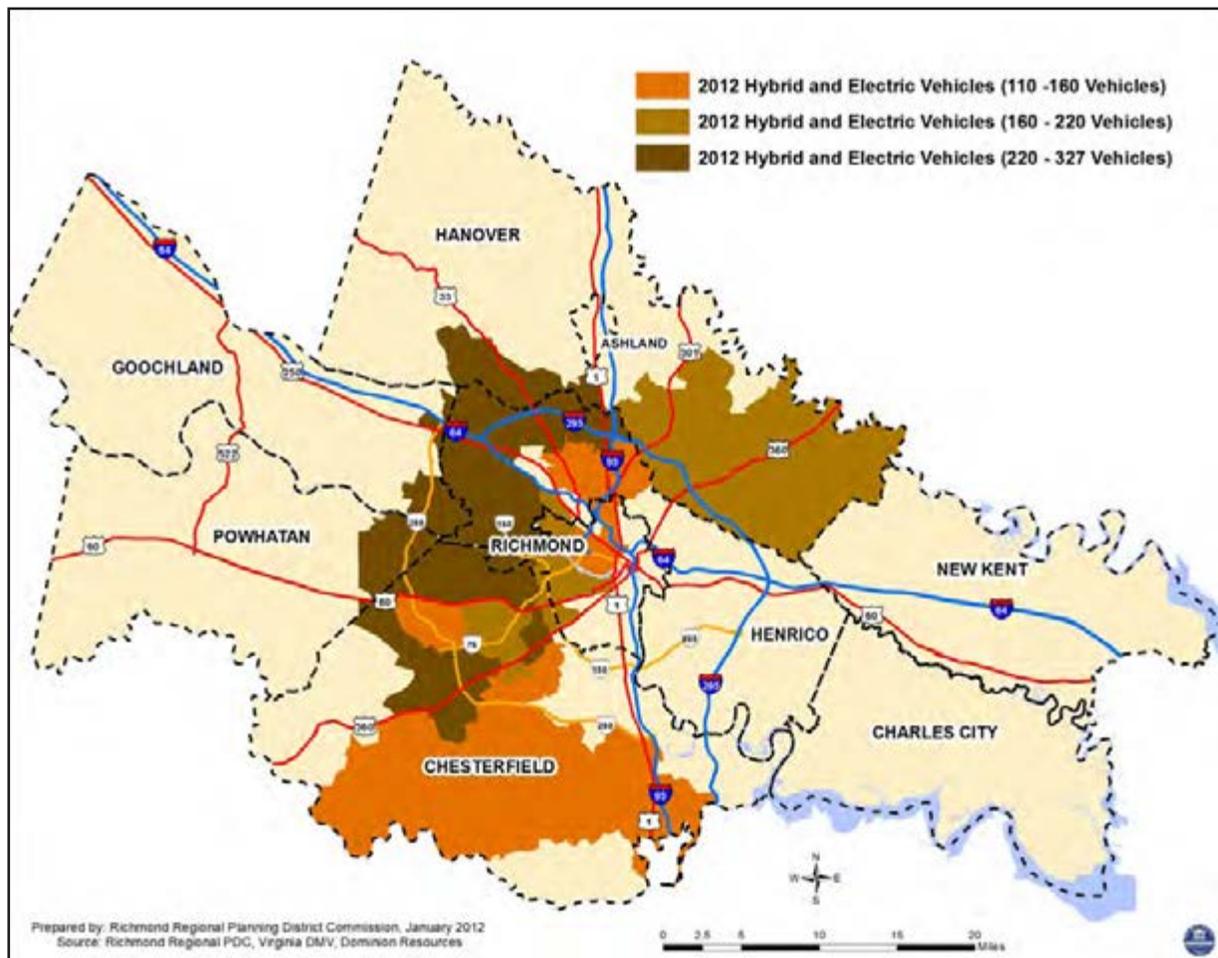


Figure 6: September 2012 Registrations of HEVs and PEVs

Another indicator of EV ownership is household income. Recent studies conclude that the majority of people purchasing new EVs have household incomes exceeding \$100,000 (California Center for Sustainable Energy, 2012). Therefore, the RRPDC mapped households with a median income of \$100,000 to help identify areas most likely to support the highest near-term EV adoption levels in the study area (see Figure 7). The resulting median household income distribution shows some correlation with the distribution of existing EV and HEV ownership (see Figures 5 and 6). These maps help locate where individuals who will own EVs are likely to live in the Richmond area and consequently where EVs would likely be stored and charged overnight.

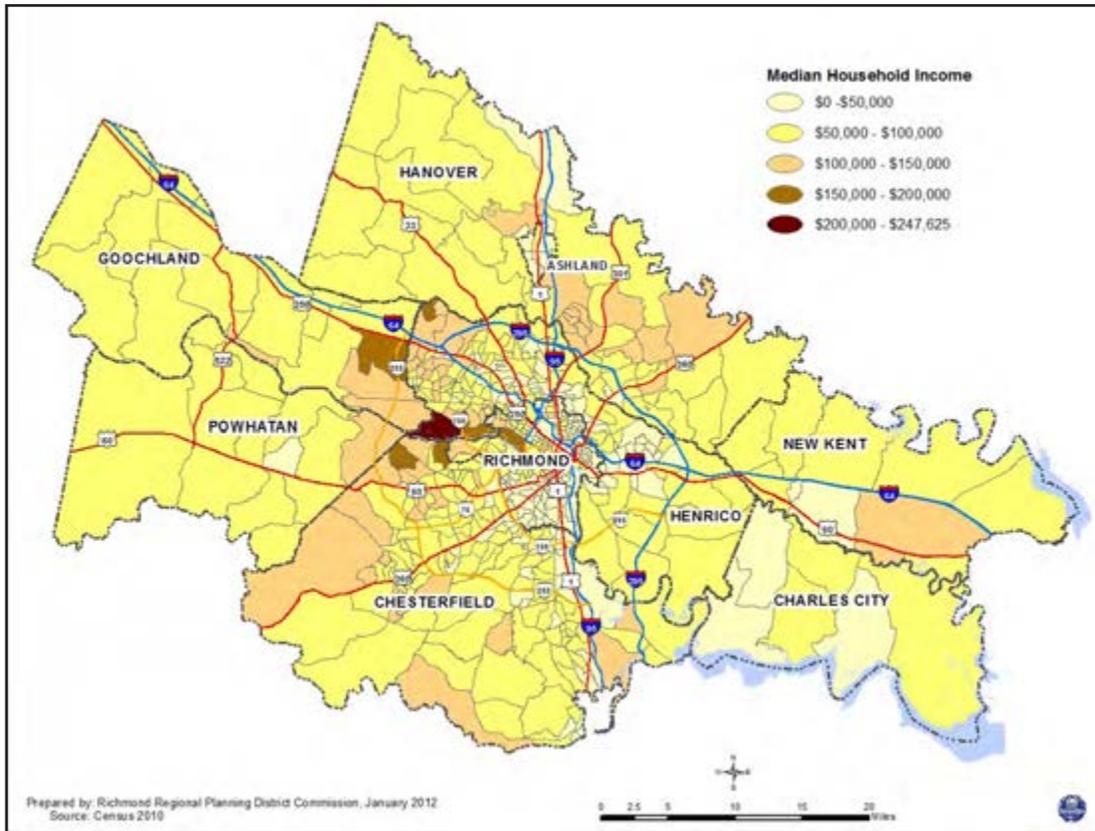


Figure 7: Regional Median Household Income

As the EV market matures over the next 10 years, factors such as lower battery costs, higher numbers of used EVs, and the economic savings of electric propulsion are likely to spread adoption more evenly throughout the region.

### Population and Growth

While most owners will charge their EVs at individual homes during evening hours, charging infrastructure also needs to be provided at the workplace, development centers and population centers.

The RRPDC used 2010 US Census data to identify population concentrations and a 2011 socioeconomic data analysis to identify relationships between population density and development areas with high employment. The socioeconomic data analysis defines Regional Development Centers using 2008 base year population and employment data recorded by Transportation Analysis Zone. Data shows that the highest regional population concentrations (1,998 to 9,989 total population per Transportation Analysis Zone) are within five miles of an employment development center and 15 miles to 25 miles of all high employment areas.

Publicly available EV charging stations should initially be concentrated in the development areas and population centers shown in Figure 8. However, a basic widespread deployment throughout the REVi study area will be necessary to sustain long-term growth. Plans for EV infrastructure should consider growth projections that suggest expansion of the West Creek and Innsbrook development areas and new development centers to the north, east and west of the city, as shown in Figure 9.

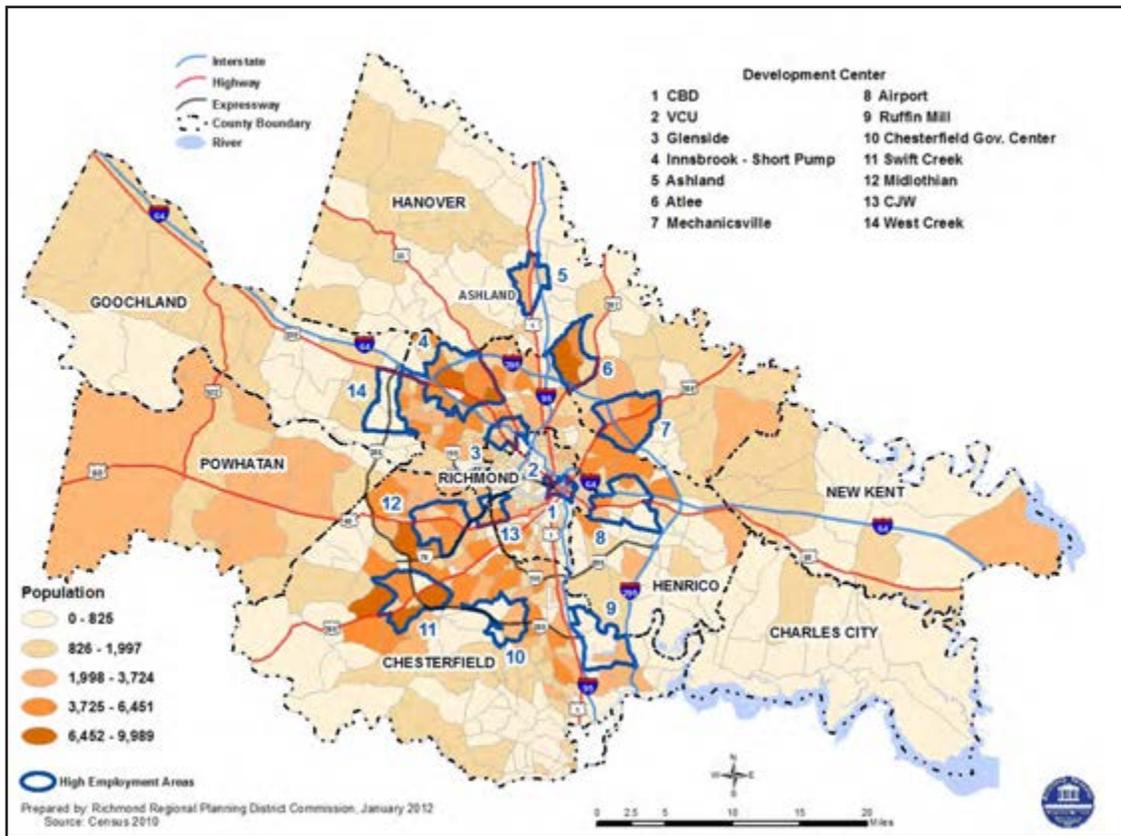


Figure 8: Regional Population Density and Development Centers

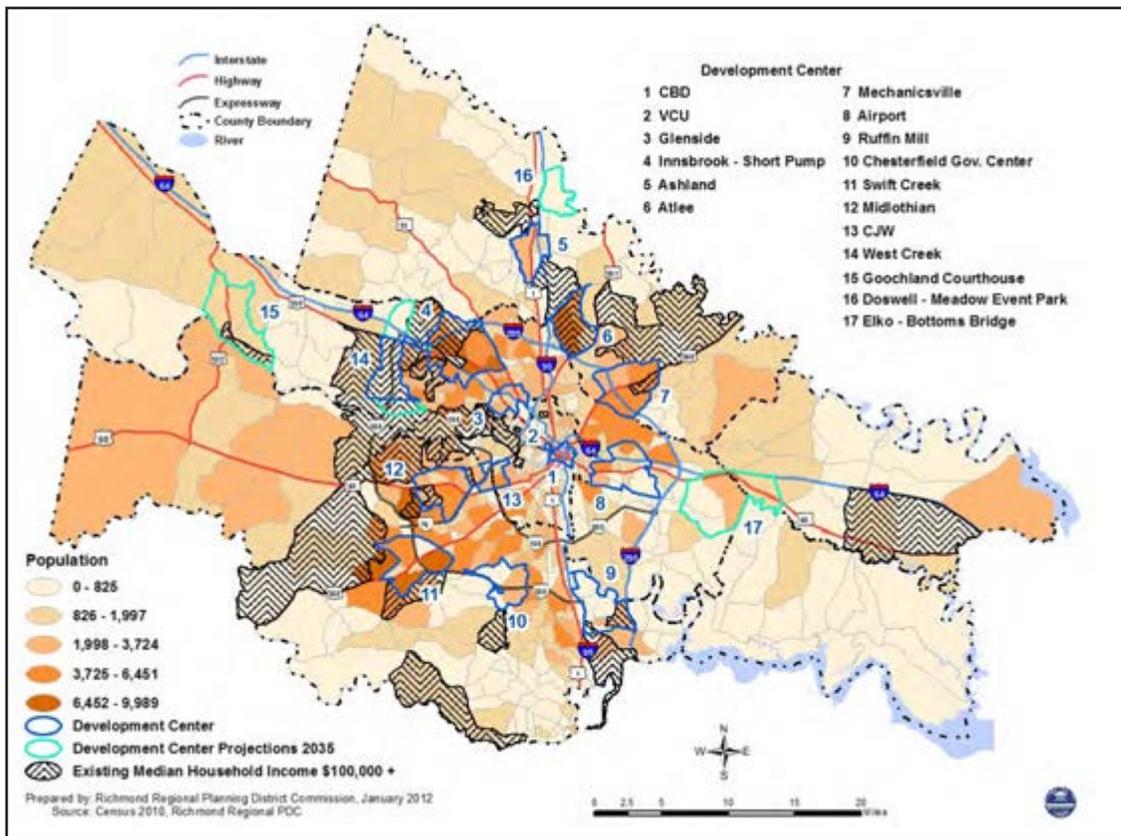


Figure 9: Future Development Centers Compared with Existing Population and Development Centers

Based on the analysis presented by the RRPDC, initial concentrations of EV ownership and infrastructure growth is anticipated to occur in the northeast region (central Hanover County) of the Richmond Region, extending westward to include western Henrico County, eastern Goochland and Powhatan counties, and central and southeast Chesterfield County. This area forms an “electric vehicle crescent” that also encompasses the center of the City of Richmond, Virginia Commonwealth University, the near west end of Henrico County and the Town of Ashland (see Figure 10). Residential charging, workplace charging, and publicly available charging are all expected to concentrate in these places. Secondary EV growth areas are projected to concentrate in eastern New Kent and Hanover counties, northwestern Henrico County, northern, western and southern Chesterfield County and central Goochland County along the Route 6 corridor. Eventually, EV adoption should spread more evenly throughout the Richmond Region.

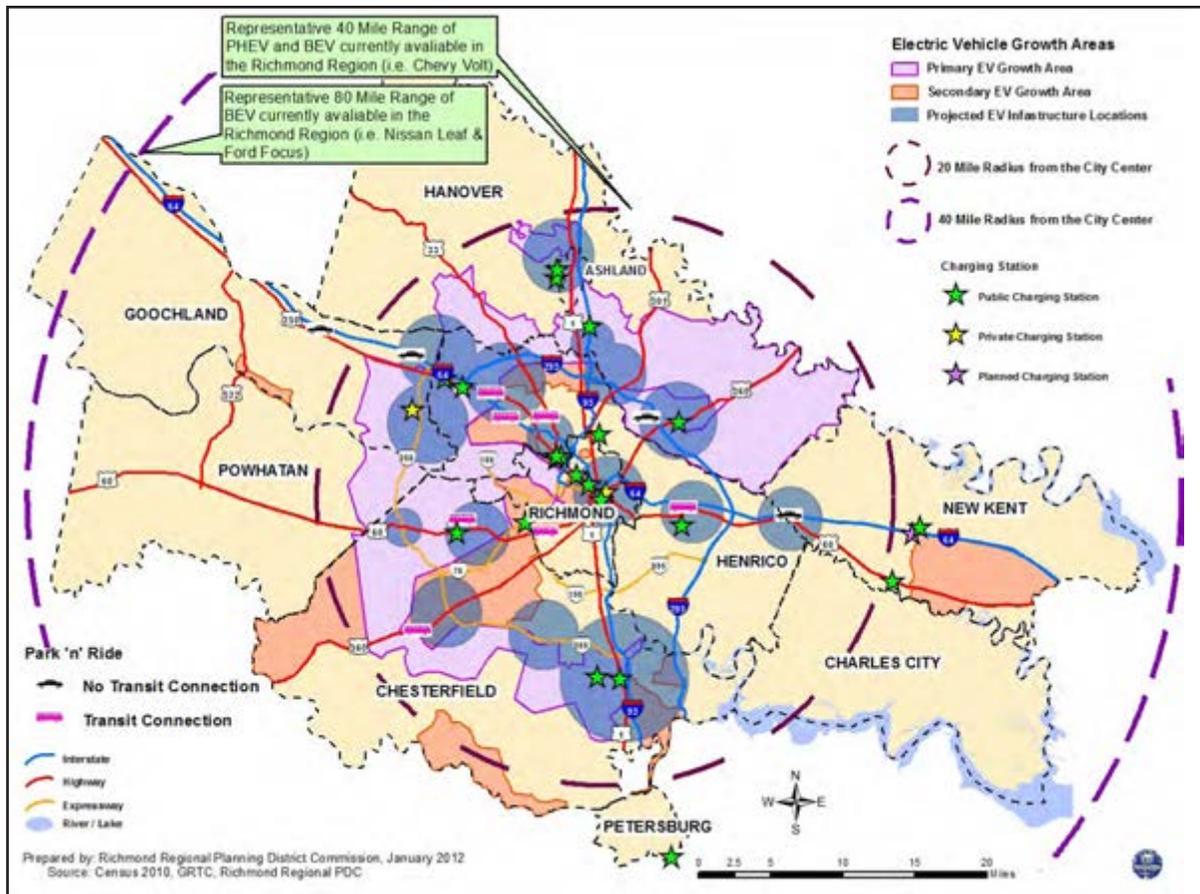


Figure 10: Projected EV Growth Areas and Infrastructure Locations

A survey from the German Chemnitz University of Technology concludes that a comfortable range to offset “range anxiety” is 80 percent of the vehicle’s specified battery range. An EV with a range of 100 miles would translate to an anxiety-free range of 80 miles. Based on this definition of comfortable range, a majority of the Richmond Region is accessible to EV owners using a single charge and therefore range is not a real concern for the Richmond Region. Nonetheless, a basic network of EV charging stations will be needed throughout the region to support a wide range of trip purposes using electric propulsion. This can be accomplished through charging at the workplace or in publicly available locations. Delays in the deployment of a network of charging infrastructure may slow the adoption of EVs. Based on data shown in Figures 5 through 9, estimated concentrations for deployment of EV charging infrastructure is shown in Figure 10.

# Zoning, Codes and Permitting to Advance EV Deployment

This section addresses the following objectives to comprehensively review, plan and advance EVs and infrastructure within the region:

- Review regional codes to assess the readiness necessary to deploy EV infrastructure and define solutions to remove any barriers.
- Establish a consistent regional approach to facilitate the deployment of EV infrastructure by preparing ordinance and development guidelines, reviewing permitting and inspection processes, developing a regional EV sign package, and creating EV infrastructure site design templates.
- Use this Plan to coordinate with the Richmond Area Metropolitan Planning Organization (RAMPO) for the inclusion of EV infrastructure in the region's long-range transportation plan as well as other regional plans and programs.

Zoning, codes and permitting directly influence the installation of EVSE. The associated rules and regulations are generally developed and enforced at the local level, which can present a challenge to any effort attempting to facilitate widespread infrastructure deployments. Zoning regulations typically dictate under what conditions certain types of EVSE may be installed. For example, DC Fast Charging systems designed for public access may not yet be allowed in areas zoned as low-density residential or agricultural.

National, state, and local codes all influence the installation of EVSE. Codes are primarily concerned with safety. However they can also include recommendations meant to reduce cost and/or improve efficiency. For example, it may be prudent to recommend that applicable building codes include a provision suggesting that all new businesses pre-wire their facility for future installation of EVSE.

Permitting for the installation of EVSE would typically involve an administrative process to protect safety, existing infrastructure, and other public concerns. The permitting process usually includes an inspection to ensure relevant codes and standards have been met. Permitting fees and processes vary by locality. The City of Richmond is a leader in permitting as they are deploying a fully online permitting program accessible from the City's website. This allows for rapid and efficient EVSE permitting, and the model can be followed elsewhere.

## Zoning Guidelines

Zoning ordinances in the Richmond Region do not currently have guidelines that address or restrict EV charging. In an effort to address the necessity of new guidelines, the RRPDC developed the following approach. The guidelines are meant to assist localities in the Greater Richmond Region in developing EV zoning practices for a full deployment of EVSE.

Table 2 shows generalized zoning classifications that can be tailored to a jurisdiction’s specific zoning classifications.

Zoning District	Level 1 AC Charging	Level 2 AC Charging	DC Fast Charging
Agricultural	P	P <sub>1</sub>	P <sub>2</sub>
Rural Residential 1	P	P <sub>1</sub>	P <sub>2</sub>
Rural Residential 2	P	P <sub>1</sub>	P <sub>2</sub>
Rural Residential 3	P	P <sub>1</sub>	P <sub>2</sub>
Low Density Residential	P	P <sub>1</sub>	PP
Medium Density Residential	P	P <sub>1</sub>	PP
High Density Residential	P	P <sub>1</sub>	P <sub>2</sub>
Mixed Use	P	P	P <sub>2</sub>
Commercial/Office	P	P	P
Institutional	P	P	P
Industrial	P	P	P

Table 2: Generalized Zoning Classifications

Key

P - Use is always permitted.

P<sub>1</sub> - Allowed only as an accessory to the principal outright permitted use.

P<sub>2</sub> - Local jurisdictions may choose to allow DC Fast Charging stations as an outright permitted use or adopt development standards applicable to high-density residential, mixed-use residential or other zoning districts.

PP - Use is not permitted but should be considered.

Local jurisdictions’ zoning ordinance requirements can predetermine the locations for EVSE as an outright permitted use or adopt development standards permitting the conditional use for EV charging.

## Building Code and Permitting Compliance

### Building Permit Recommendations

One key approach to ensuring an adequate EV infrastructure is to recommend new construction or major alterations of existing development to include a minimum number of EV parking spaces as part of building permit compliance. These EV parking spaces could be either prepared for future EVSE by installing conduit or installing EVSE as part of construction. Table 3 presents recommended guidelines for a minimum number of EV parking spaces as a percentage of the total minimum required parking spaces for different types of development. These recommendations were derived from Leadership in Energy and Environmental Design (LEED) guidelines for alternative fuel vehicles parking spaces and fuel stations.

Land Use Type	Recommended EV Parking Spaces as a Percentage of Minimum Required Parking
Multi-Unit Developments	5%
Lodging	3%
Retail and Restaurants	1%
Office/ Medical	3%
Institutional/Municipal	3%
Entertainment, Recreational and Cultural	3%
Industrial	1%-3%

Table 3: Recommended Minimum EV Parking Spaces

Another building code issue is accessibility. Table 4 recommends a minimum number of accessible EVSE using a ratio of 1:50 based on the Federal Access Board’s ADA Accessibility Guidelines (Access Board, 2002).

Number of EV Charging Spaces	Min. Number of ADA EV-Charging Stations
1-50	1
51-100	2
101-150	3
151-200	4
201-250	5
251-300	6

Table 4: Recommended Minimum Accessible Charging Stations

We do not recommend that accessible charging stations be signed or reserved for exclusive use by persons with disabilities at this time. Additional information on ADA compliance can be found in a separate REVi-sponsored report found at <http://www.vacleancities.org/wp-content/uploads/EV-Charging-ADA-Version-1.0s.pdf>.

## Building Permit Processing

Residential, including single residences and multi-unit developments, and commercial EVSE permitting standards are regulated by the Virginia Uniform Statewide Building Code (VUSBC). Few building code or building permit encumbrances exist in the Richmond Region that affect EVSE installation. REVi recommends that local governments adopt any of the following actions not already implemented:

- Make available EVSE installation brochures at the local permitting and/or planning offices that reference relevant code.
- Provide an EVSE permitting procedures checklist (see Appendix 1).
- Use an online EVSE permitting process.
- Streamline inspection procedures.
- Record the address, voltage and amperage of the EVSE that will be installed.
- Notify the electric utility about the location and type of EVSE when the permit is issued.
- Fast-track EVSE installation projects.

Accomplishing these objectives will assist local governments in supporting a coordinated approach to EV infrastructure deployment in the Greater Richmond Region.

## Ordinance and Development Guidelines

This section offers guidance on installing EVSE and pertains to safety, convenience, and protecting community values. It should be considered when amending building codes and used to create public information materials in support of improving EV charging station installations.

### *Design of EVSE:*

- EVSE charging cables should have a retraction device or other means to safely manage the cables during storage and while in use.

### *Placement of EVSE:*

- Access to charging equipment controls and cables should be no more than 48 inches from ground elevation and no lower than 24 inches.

### *Obstructions:*

- Placement of EVSE should not diminish normal use of the adjacent street and sidewalk.
- Charging infrastructure placed within sidewalks should not interfere with ADA-accessibility guidelines such as clearance widths and other accessible route considerations.

### *Signage:*

- Directional and way-finding signs should be installed at parking access and decision points that effectively guide motorists to EV charging stations.
- Signage identifying EV charging stations should indicate that the space is only to be utilized for EVs or EV charging.
- For on-street parking, each charging space should be posted with EV signage indicating the space is only for EV charging purposes, and should include time limits and tow away penalties, if applicable.

### *Minimum lighting:*

- Lighting is recommended at all charging stations, unless only daytime charging is permitted. Minimum lighting is defined as providing a minimum illumination of two foot-candles extending from the charger to the EV charging point/port. Lighting should conform to current jurisdictional lighting ordinance requirements (i.e. light spill cut-off angles & dark sky).

### *EVSE Information:*

- Information at the EVSE should contain all necessary safety information, time limits, fee information, and contact information for reporting equipment malfunctions or other problems.

### *Flood Plain:*

- EVSE should be placed above base flood elevations.

### *Accessibility:*

- At parking facilities where accessible parking is required, ensure that accessible EV charging is also provided. This includes parking space and access aisle widths, maximum allowable slope, and turnaround space for wheelchair operation (Mayfield, 2012).
- Utilize existing ADA-accessible access aisles and other accessibility features to the extent feasible.

- Parking for accessible EV charging should be located as close as possible to the parking facility's intended destination.

*Convenience:*

- Place EVSE where it can be easily reached yet protected from vehicles.
- Add a striped access aisle next to the EV parking space where it is appropriate to increase access to the EVSE and ease use of the charging cable.

*EVSE Protection:*

- Place EVSE in a protected location or provide wheel stops or bollards as needed to protect equipment.

*Safety:*

- EV charging stations planned for surface parking that will be used after dark should be sited in high-visibility locations to enhance personal safety.
- Ensure that placement of EVSE, bollards, wheel stops, signage, and other features do not create a tripping hazard or other type of safety concern. Place such that cables in use do not cross sidewalks or other pedestrian pathways.
- Selection of on-street EV spaces should be reviewed for operational safety by a traffic engineer.

## Electric Charging Station Layout Recommendations

The following drawings show sample Level 1 and Level 2 EV charging station layouts for off-street surface parking, on-street parking, and enclosed parking in a structure (see Figures 11, 12, 13, and 14). Additional layouts can be found at <http://www.vacleancities.org/wp-content/uploads/Site-Design-for-EV-Charging-Stations-1.0.pdf>.

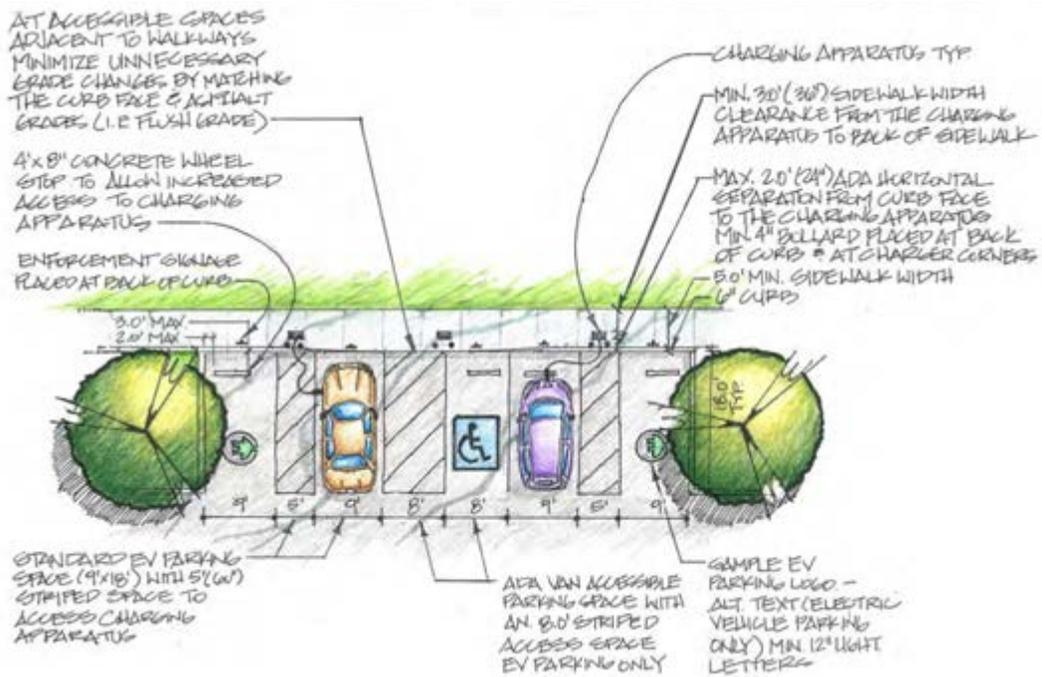


Figure 11: Example of 90-Degree EV Parking Adjacent to Sidewalk

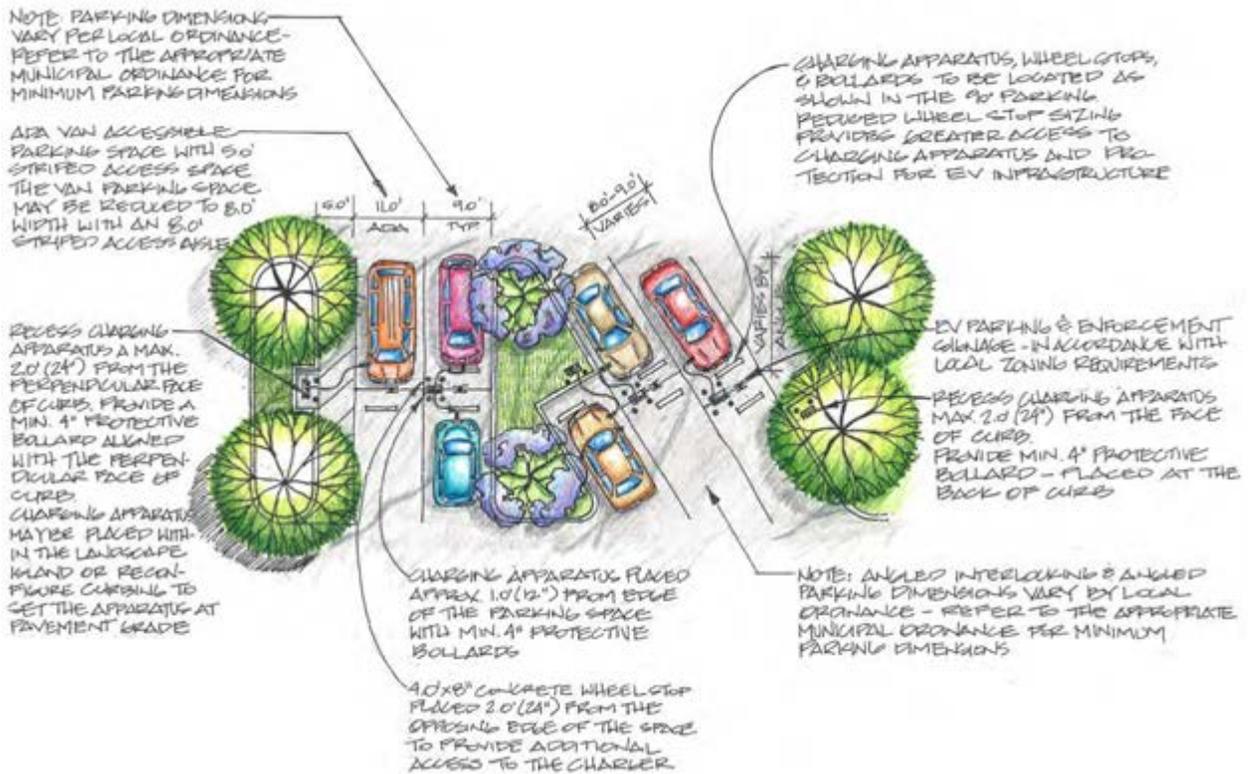


Figure 12: Adapting Parking Spaces within a Parking Lot

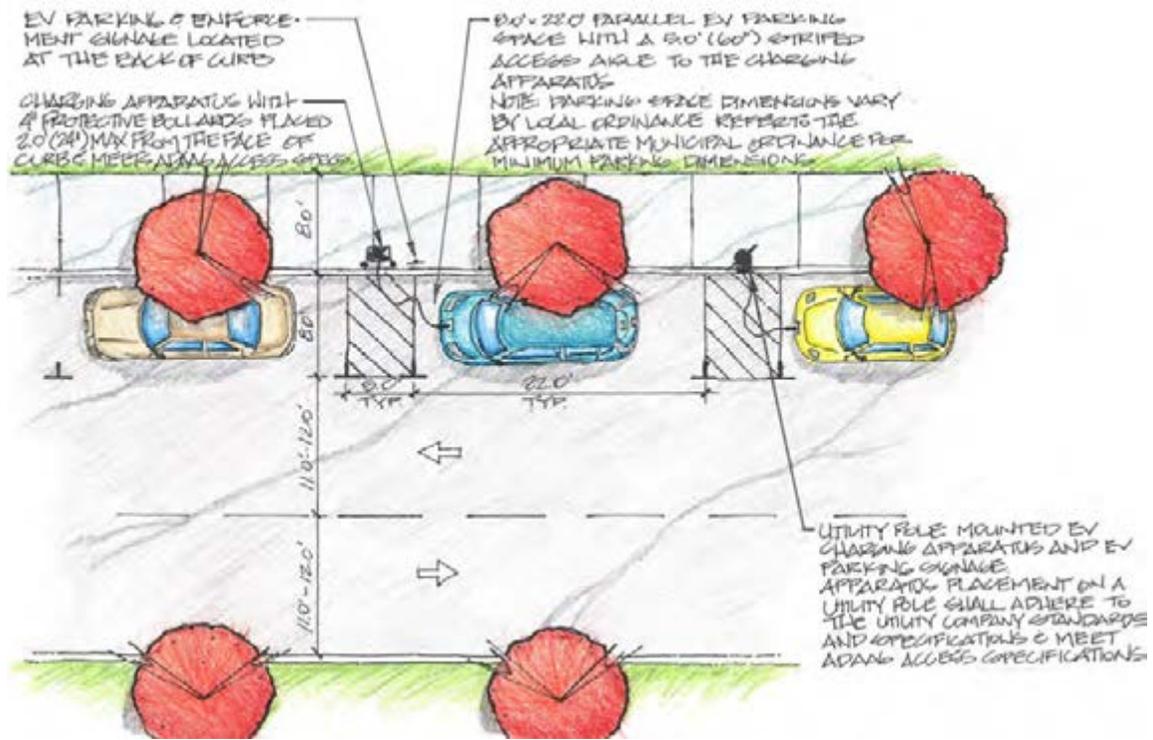


Figure 13: Example Layout for On-Street Parallel Parking

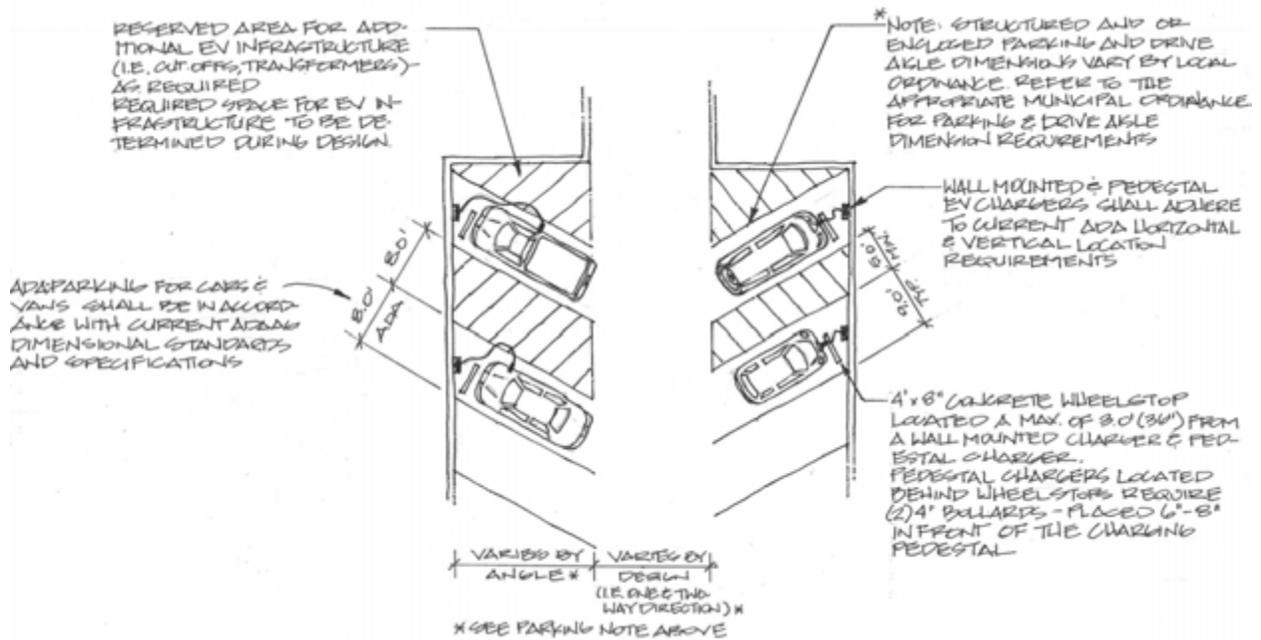


Figure 14: EV Charging Stations in Parking Structures

## Signage Guidelines and Recommendations

Signage is needed for a range of EV-related applications. For example, way-finding signs should guide EV drivers to charging locations off of federal or state highways and other signs should designate parking spaces reserved for EV charging. Although parking signage requirements differ between federal, state, and private jurisdictional applications, it is important to have consistency at least within each jurisdiction. The following guidelines are intended to serve as recommendations for various types of EV-related signage.

### General Service Signs

General Service Signs are approved for use in VDOT maintained rights-of-way (Virginia Department of Transportation, 2011). Signs shown in Figure 15 are consistent with federal standards.

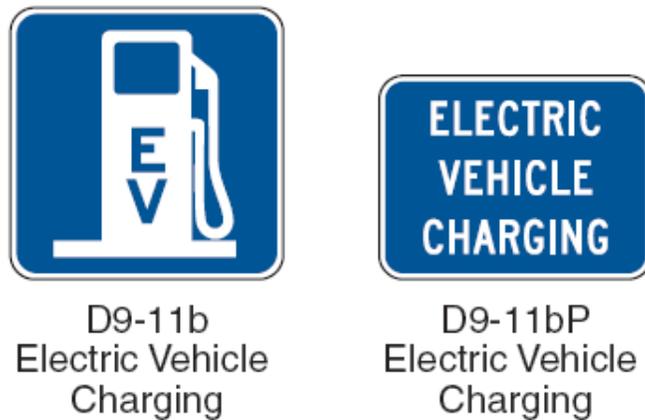


Figure 15: VDOT-Approved EV Charging Signs

Sign or Plaque	Sign Designation	Section	Conventional Road	Freeway or Expressway
Electric Vehicle Charging	D9-11b	21.02	24" x 24"	30" x 30"
Electric Vehicle Charging (Plaque)	D911-11bp	21.02	24" x 18"	30" x 24"

Table 5: VDOT-Approved EV Charging Sign Specifications

VDOT-approved directional signage is shown in Figure 16 below.



Figure 16: VDOT-Approved Directional Signage

## Additional Regulatory Signs and Plaque Sizes

Consistent signage is important to help find charging stations and also to understand associated parking regulations within each jurisdiction. During the course of the REVi, project staff proposed sign content and designs for utilization by local jurisdictions and property owners. Signs shown in Figure 17 would inform the public about parking restrictions associated with EV charging (also see Table 6).



Figure 17: EV Informational and Regulatory Signage

Sign	Sign Designation	Section	Minimum	Oversized	Color Federal Standard 595C
No Parking Except Electric Vehicles	R7-21b	2B.46	18" x 12"	21" x 15"	34230, 27038, 27780
No Parking Except Electric Vehicles Charging	R7-21c	2B.46	18" x 12"	21" x 15"	34230, 27038, 27780
Reserved Parking Electric Vehicles	R7-8b	2B.46	18" x 12"	21" x 15"	34230, 27780
Number of Hour Charging	R7-108a	2B.56	18" x 12"	21" x 15"	34230, 27780

Table 6: Details of Informational and Regulatory Signage

Signs shown in Figure 18 would help drivers locate charging stations, identify the charging station parking, and also indicate the level of charging available (also see Table 7). At this time, none of these designs have been approved by VDOT. REVi recommends that these or similar signs be adopted by local jurisdictions throughout the region once agreement on design has been reached with VDOT.



Figure 18: Recommended Directional Signage for Use outside VDOT-Controlled Right-of-Way

Sign	Sign Designation	Conventional Road	Minimum	Oversized	Color Federal Standard 595C
Electric Vehicles Charging Station	EV-ST-1	24" x 18"	18" x 12"	21"x 15"	34230, 27780
Electric Vehicles Charging Station	EV-ST-2	24" x 18"	18" x 12"	21"x 15"	34230, 27780
Electric Vehicles Charging Station Directional	EV-ST-3	24" x 18"	18" x 12"	21"x 15"	34230, 27780
Electric Vehicles Charging Station Directional	EV-ST-4	24" x 18"	18" x 12"	21"x 15"	34230, 27780
Electric Vehicles Charging Station Information	EV-ST-5	24" x 18"	18" x 12"	21"x 15"	34230, 27780

Table 7: Details of Directional and Charging Station Signage

## Current Status of Codes and Permitting Activities

Successful deployment of EVSE within the Richmond Region is being facilitated by developing a uniform approach to EV infrastructure in both the public and private sectors. In an effort to develop a regional consensus, the REVi Codes, Permitting and Site Installation team completed the following action items:

- Conducted a case study/planning analysis to project primary and secondary growth areas for EV adoption and infrastructure deployment.
- Obtained general letters of support for REVi's Strategic plan from the nine participating regional planning departments in the Richmond Region that will use the plan as a resource to guide EV infrastructure development and deployment. REVi also obtained a resolution from the Town of Ashland Town Council supporting the REVi strategic plan.
- Prepared and distributed multiple EV charging infrastructure documents, including:
  - o EV Zoning and Development Guidelines.
  - o Regional EV Sign Package.
  - o EV Infrastructure Siting and Installation Checklist.
- Coordinated with Richmond Area Metropolitan Planning Organization (RAMPO) for inclusion of EVs and the associated infrastructure in the long-range transportation plan (Plan 2035 LRTP) and review in future RAMPO plans and programs.

Localities throughout Virginia and the nation can advance similar efforts using the initial templates provided by this plan.

# Policies and Incentives

## Introduction

Legislative, regulatory, and other public policy forums provide the opportunity to reduce or eliminate barriers that may be hindering adoption of EVs and the associated infrastructure. Similarly, policy may also be crafted to encourage EV adoption through financial or non-financial incentives. EVs and EVSE are emerging as beneficial technologies, and as such the REVi team encourages the refinement of existing law and regulations to help facilitate their adoption.

The sections below provide analysis and recommendations regarding a number of federal, state, and local policies and incentives.

## Federal Government

### Plug-in Vehicle Tax Credit

Currently, qualified EVs are eligible for a tax credit of up to \$7,500 based on battery size and gross vehicle weight. This tax credit has been instrumental in catalyzing a nascent EV market that is significantly impacted by the higher retail prices associated with most EVs. The President's Fiscal Year 2013 Budget Proposal proposed increasing the tax credit to \$10,000. While REVi welcomes continued support of this incentive, we encourage the conversion of the tax credit to a rebate that would reduce the upfront purchase price for the consumer. Consumers or dealers must still finance the full manufacturer suggested retail price, and then claim their tax credit when they file income tax returns. A rebate that reduces the upfront purchase price may open the EV market to consumers who cannot obtain sufficient financing. Furthermore, a rebate would allow organizations without income tax liability to benefit from the vehicle incentive. Finally, consumers, fleets, and dealers should continue to be educated on this tax credit as awareness is limited.

### Alternative Fueling Infrastructure Tax Credit

Prior to January 1, 2012, tax credits of up to \$1,000 for residential consumers and \$30,000 for non-residential consumers were available for alternative fueling infrastructure, including electricity. Congress recently reinstated this credit and made it applicable to infrastructure installed prior to December 31, 2013. REVi enthusiastically supports the extension of the infrastructure tax credit, and believes it will be important in facilitating the widespread deployment of EVSE.

### Federal Highway Rights of Way

Chapter 23 of the United States Code of Federal Regulations (CFR) prohibits any entity from charging the public for goods and services at rest areas except for telephone access and articles dispensed by vending machines. Furthermore, vending machines are prohibited from dispensing petroleum products or motor vehicle parts.

These restrictions prevent anyone from providing EV charging services for a fee within Federal right-of-way. For example, Dominion Virginia Power installed charging stations at the Interstate-64 Westbound Rest Area in New Kent County, Virginia. The electricity is provided to the public free of charge, with VDOT responsible for the electricity bill.

VDOT identified this particular regulation as a potential barrier to deployment of EVSE along highway corridors. Highway rest areas are most well suited for faster Level 2 AC or DC Fast Charging EVSE, which may require significant capital investment. The inability to charge fees for their service would serve as a disincentive to EVSE providers. We recommend that Federal Highway Administration and US Department of Transportation adopt regulations that provide an exemption in Chapter 23 of the CFR enabling public and private EVSE providers to charge for their service.

## State Government

### Background

Legislation was passed during the 2011 Virginia General Assembly session clarifying the eligibility of non-utilities to provide EV charging services. Virginia law currently prohibits non-utilities from selling electricity at retail unless the non-utility suppliers meet specific requirements. The 2011 legislation, House Bill 2105, deems non-utility EV charging service providers to not be engaged in the retail sale of electricity provided that the electricity is sold only for transportation purposes and is purchased from the incumbent electric utility. The bill also states that the provision of EV charging services is a permitted utility activity and that non-utility EV charging service providers are exempt from regulation as a public utility. Finally, this legislation, which became law on July 1, 2011, allowed utilities to evaluate options to develop and offer special rates to encourage off-peak charging. House Bill 2105 helped enable Dominion Virginia Power's EV Pilot Program.

### Emissions Inspections

Motor vehicles are currently exempted from Virginia state emissions inspections if they are powered exclusively by clean fuels, including electricity. Virginia law provides an exemption for qualified hybrid motor vehicles if they attain a United States Environmental Protection Agency (EPA) rating of at least 50 miles per gallon during city fuel economy tests. Legislation was recently passed by the Virginia General Assembly reducing that number to 48 miles per gallon for certain vehicles.

REVi appreciates the recognition from the Virginia General Assembly that highly efficient hybrid vehicles should be exempt from emissions inspections. However, the current and proposed exemption is restricted to vehicles that meet a 48 mile per gallon city fuel efficiency rating from the EPA. While PHEVs meet the Virginia definition of "hybrid motor vehicle," the EPA calculates its city fuel efficiency rating based only on the gasoline engine. It does not factor in the efficiency of the electric fuel. Although the Toyota Prius Plug-in Hybrid still achieves a city fuel efficiency rating of greater than 50 miles per gallon based solely on gasoline, other PHEVs like the Chevy Volt and Ford C-Max Energi remain below this threshold.

The EPA's combined rating, known as miles per gallon equivalent (MPGe), evaluates the efficiency of both electricity and gasoline. PHEVs like the Volt and C-Max Energi are rated at 94 MPGe or higher, and should be recognized for their high fuel efficiency. Data submitted to the EPA currently shows that PHEV owners are achieving actual average fuel efficiencies well in excess of 50 miles per gallon, making them more fuel efficient

than HEVs. We recommend that Virginia law be amended in the 2014 General Assembly session so PHEVs with a combined MPGe rating of 90 or higher are exempted from emissions inspections. This exemption will save PHEV drivers time and expense on these inspections.

## HOV Lane Exemptions

Legislation passed in 2011 exempted clean special fuel vehicles, which include vehicles fueled by electricity and hybrids, from meeting occupancy requirements of Virginia's High Occupancy Vehicle (HOV) lanes through June 30, 2012. Legislation was passed in the 2012 General Assembly session that extends the sunset date in perpetuity. However, the 2012 legislation also requires the Commissioner of Highways to submit an annual report detailing traffic volumes that could result in a degraded condition on Virginia's HOV lanes. This report is used to determine future restrictions on the eligibility of clean special fuel vehicles to be exempted from occupancy requirements of Virginia's HOV lanes.

While the extension of the HOV lane exemption for clean special fuel vehicles is helpful, the HOV lane exemption along the Interstate 95/395 corridor in Northern Virginia is only available to clean special fuel vehicles registered on or before July 1, 2006. Similarly, the HOV lane exemption along the Interstate 66 corridor in Northern Virginia is only available to clean special fuel vehicles registered on or before July 1, 2011. No EVs registered after July 1, 2011 can benefit from this exemption.

While REVi recognizes the need to reduce congestion on the Commonwealth's HOV lanes, EVs should be granted an exemption from all HOV lane occupancy requirements. With approximately 1,000 EVs registered in the Commonwealth, there is no imminent threat of overcrowding Northern Virginia's HOV lanes. REVi discussed this concept with VDOT during an August 2012 meeting, and ultimately concluded that a legislative change would be required to exempt EVs from all HOV lane occupancy requirements. We recommend Virginia law be changed in the 2014 General Assembly session to address this issue.

## Electrical Inspection Jurisdiction

In an effort to address the challenges associated with deploying EVSE in areas with no off-street parking, Dominion Virginia Power identified a possible solution involving the use of existing utility poles. They are investigating the possibility of leasing space on utility poles to third-parties interested in installing EVSE along streets where there is limited off-street parking. Part of the research included reaching out to several localities in an effort to identify any potential permitting or zoning barriers. Although most localities did not anticipate any unusual problems, there was some confusion regarding jurisdiction over electrical inspections for EVSE installed in the public right-of-way.

Most electrical inspections for homes and businesses are managed by the local building or permitting department. Electric utilities will typically not energize an electrical service until they receive notification from the locality of a successful electrical inspection. Although consistency from locality to locality is important, the larger concern is the issue of liability. A utility that leases space on their poles to EVSE providers may be held liable if the non-utility-owned electrical wiring damages equipment or injures a member of the public. Traditional practices requiring municipal inspections reduce the burden of liability on the utility for non-utility-owned wiring. However, if non-utility-owned EVSE in the public right-of-way are not subject to municipal inspections, the burden of liability rests more squarely on the utility, which may serve as a disincentive to similar utility initiatives designed to provide charging infrastructure in the public right-of-way.

We recommend the Virginia Statewide Uniform Building Code be clarified to require that municipal electrical inspectors inspect all non-utility-owned EVSE installations in the public right-of-way, including those on utility poles.

## Virginia Transportation Funding

Legislation was passed in the 2013 Virginia General Assembly session that revises how transportation funding is collected and distributed. Key components of the proposal include the elimination of the current 17.5 cents per gallon motor fuels tax on gasoline that will be replaced with a 3.5 percent wholesale tax on gasoline and 0.3 percent increase to the Sales and Use Tax. The legislation also will impose a \$64 annual fee on alternative fuel vehicles, which include PHEVs and BEVs.

The bill ultimately passed in a form that taxes hybrid vehicles (including PHEVs) at rates significantly higher than ICE vehicles. While REVi recognizes the importance of vehicle owners contributing their fair share to transportation funding, we recommend that the \$64 annual fee be adjusted to reflect that hybrids, including PHEVs, still use gasoline and should not be assessed the same annual fee as a vehicle that completely avoids the use of gasoline. Virginia's government leaders should be educated on benefits of EVs and PHEVs prior to the next legislative session, with the hopes of adjusting the transportation funding mechanism to one that taxes consumers based on their usage of the roads as opposed to fuel type.

## Local Government

### Regional Funds for EV Infrastructure

The Richmond Area Metropolitan Planning Organization (RAMPO) is the federally designated metropolitan transportation planning organization that serves as the forum for cooperative transportation decision making in the Richmond area. It includes approximately two-thirds of the Richmond Regional Planning District, which serves as the contracting agent and administrative and technical staff for RAMPO. Its transportation planning process serves as a forum for local governments, transportation and planning agencies, and VDOT to prioritize regional transportation projects that may be eligible for state and federal funds.

Using this report as a starting point, we recommend submitting a proposal to RAMPO for funding to install publicly accessible EVSE in key locations around the Richmond Metropolitan Area. Primarily, we recommend focusing on areas identified by our analysis as those most likely to support EV adoption. REVi partners plan to submit the proposal to RAMPO by fall of 2013.

### Parking Enforcement

Parking enforcement of spaces designated for EV charging has emerged as one of the more frustrating challenges in the early deployment of EVSE in Virginia. EV owners attempting to charge at publicly available locations have been stymied by ICE vehicles that are parked in spaces clearly designated for EV charging. This became a particular problem at a county-owned park-and-ride facility in Northern Virginia, so county officials asked the local sheriff's department to begin ticketing ICE vehicles that were parked in spaces reserved for EV charging. However, the sheriff's office was unable to fulfill that request because county ordinances did not authorize them to enforce these parking regulations.

REVi researched parking regulations in counties, cities, and towns in an effort to devise a solution to this problem. The Code of Virginia, in §46.2-1220, prescribes that the governing body of any locality may regulate parking, stopping, and standing of vehicles within its limits. Furthermore, it authorizes the localities to make and enforce regulations including, but not limited to, penalties for violations.

«§ 46.2-1220. Parking, stopping, and standing regulations in counties, cities, or towns; parking meters; presumption as to violation of ordinances; penalty.

*The governing body of any county, city, or town may by ordinance provide for the regulation of parking, stopping, and standing of vehicles within its limits, including the installation and maintenance of parking meters. The ordinance may require the deposit of a coin of a prescribed denomination, determine the length of time a vehicle may be parked, and designate a department, official, or employee of the local government to administer the provisions of the ordinance. The ordinance may delegate to that department, official, or employee the authority to make and enforce any additional regulations concerning parking that may be required, including, but not limited to, penalties for violations, deadlines for the payment of fines, and late payment penalties for fines not paid when due. In a city having a population of at least 100,000, the ordinance may also provide that a summons or parking ticket for the violation of the ordinance or regulations may be issued by law-enforcement officers, other uniformed city employees, or by uniformed personnel serving under contract with the city. Notwithstanding the foregoing provisions of this section, the governing bodies of Augusta, Bath, and Rockingham Counties may by ordinance provide for the regulation of parking, stopping, and standing of vehicles within their limits, but no such ordinance shall authorize or provide for the installation and maintenance of parking meters.*

REVi recommends that Richmond regional communities update their codes to allow enforcement of EV Only parking places, similar to the example provided by the City of Raleigh as provided below:

*“Sec. 11-2174 of the Raleigh City Code is hereby amended by adding a new subsection (c) thereto to read as follows:*

*(c) The city council may designate certain parking spaces on city streets at or near electric charging stations for use only by electric vehicles. An electric vehicle is one that operates, either partially or exclusively, on electrical energy from the grid, or an off grid source, that is stored on board for motive purpose. An electric charging station is equipment that has as its primary purpose the transfer of electric energy to a battery or other energy storage device on an electric vehicle.*

*Spaces designated as reserved for electric vehicles shall be clearly marked as such. When a space has been so marked, no person shall park or stand any nonelectric vehicle in that space. If an electric vehicle is parked in such a designated space but is not attached to the charging station it is in violation of this ordinance. Any nonelectric vehicle so parked is subject to civil fine or removal. The fine for violation of this ordinance is fifty dollars (\$50.00) and shall be collected in the same manner and with the same penalties for late payment as other on street parking violations. Any vehicle parked in such a space must make the appropriate payment for the space and observe the time limit for the underlying parking zone.”*

## Personal Property Tax

Most motor vehicles in Virginia are subject to personal property tax rates levied by local governments. The Code of Virginia §58.1-3506 classifies a number of items of property, including vehicles fueled solely by electricity, separately from other classifications of personal property. Local governments may levy a tax on these separately classified items of property at a different rate not to exceed that applicable to the general class of tangible personal property. Essentially, this allows local governments to assess a reduced property tax rate on vehicles fueled solely by electricity.

While REVi recognizes that the financial challenges confronting the public sector may make a reduction in property tax rates for EVs difficult to support, this information was shared with local government representatives to ensure they were aware of their options. We recommend local governments consider using this reduction in assessing personal property taxes on EV owners. We further recommend that §58.1-3506 be amended to include the eligibility of PHEVs for separate personal property tax rates.

## Conclusion

Significant EV adoption will likely require amendments to existing policy and creation of new policy to address the unique challenges presented by the vehicles and charging infrastructure. Several recommendations for policy and regulatory change have been offered in this section including:

- Supporting tax credits that advance EV and infrastructure purchases and deployment.
- Encouraging adoption of regulations that enable public and private EVSE providers to charge for their service.
- Supporting HOV exemptions for EVs.
- Supporting regional funding of publicly accessible EVSE in key locations around the Richmond Region.
- Including the cost of EVSE materials and installation in vehicle financing arrangements from vendors.

While financial incentives are important, such as the Federal plug-in vehicle tax credit, they should not be the sole focus of policy and incentive agendas designed to encourage EV adoption. Both public and private sector organizations are challenged by current economic realities, so the feasibility of financial incentives is limited. Rather, there should be significant effort devoted to supporting non-financial policies and incentives that reduce, eliminate, or counteract barriers posed by education, cost, and access.

# Pilot Programs and Other Opportunities

## Time-of-Use Rate Pilot Program

Dominion Virginia Power (DVP), the regulated investor-owned electric utility that provides electric service to the majority of the Richmond Region, applied to the Virginia State Corporation Commission (SCC) for approval of its EV Pilot Program on January 31, 2011. The application was approved with an effective date of October 3, 2011. This program allows two time-of-use rates for residential EV charging. Both rate options are designed to encourage off-peak charging in an effort to avoid adding load at current peak times and/or overloading local distribution circuits. One rate option, Schedule EV, is for EV-charging only and requires a separate meter. A customer can recharge his or her EV for as little as 54 cents per night for a 40-mile commute. The second rate option, Schedule 1EV, is a whole-house rate that relies on a single meter to measure all electricity usage associated with the entire house. A customer can recharge his or her EV for as little as 51 cents per night for a 40-mile commute.

The main purpose of the EV Pilot Program is to collect valuable energy usage and customer charging behavior data, which is helping DVP to analyze potential grid impacts from EV charging, as well as the effectiveness of price signals at influencing charging behavior. The data will assist in the development of DVP's Integrated Resource Plan which is a document that forecasts growth in customers' demand and energy over the next fifteen years. The Plan identifies the most cost-effective way to meet that growth with existing and potential resources.

Participation in the pilot program, combined with information collected from vehicle manufacturers, the DMV, and the enhanced electric permitting process, will provide valuable information including EV charging load shapes, customer charging patterns and behaviors, and most importantly, the extent to which price signals can adequately induce customers to shift charging to off-peak periods. All of these inputs, in aggregate, will help Dominion Virginia Power analyze potential grid impacts. The extent to which the EV Pilot Program time-of-use rates result in customers' shifting charging to non-peak hours will help determine whether Dominion Virginia Power will seek to make those rates permanent as part of the portfolio of energy efficiency and peak shaving programs that Dominion Virginia Power offers or whether other measures are needed to shape customer charging patterns.

DVP must file annual reports to the SCC regarding the progress of the EV Pilot Program. These reports should be publicly available on the SCC website. At the time of this writing, this document can be located also at the State Corporation Commission website <http://docket.scc.virginia.gov/vaprod/main.asp> by searching for case number PUE-2011-00014.

## Workplace Charging Pilot Program

DVP recently began a pilot workplace charging program for employees at its corporate headquarters in Richmond. Participating employees pay a flat monthly fee through an authorized payroll deduction in exchange for access to parking spaces designated for EV charging. The monthly fee is designed to recover the electricity and infrastructure costs. Designated parking spaces are equipped with lockable 120-volt receptacles using dedicated branch circuits. When employees are not charging, they are required to lock the receptacle covers to prevent unauthorized use.

DVP elected to install 120-volt receptacles because most employees leave their cars in the garage for eight to ten hours a day while working. Installation costs for multiple receptacles were considerably less than those for Level 2 EVSE. If successful, DVP hopes to expand the availability of workplace charging to more offices using this pilot as a template. Additionally, DVP wants this pilot to serve as an example that Level 1 EVSE are an effective option for employers that wish to provide access to workplace charging without making huge capital investments.

## EVSE and Vehicle Leasing/Financing

For those consumers interested in Level 2 EVSE, installation costs can easily reach several thousand dollars based on the layout and wiring of their charging location. This additional cost could be seen by first time owners as a barrier to adoption. As a potential solution, REVi supports including the cost of EVSE materials and installation in vehicle financing arrangements from vendors. Based on discussions with various representatives from the automotive industry, this option is already available in some instances. Nevertheless, REVi recommends that original equipment manufacturers, auto dealers, and lenders that do not currently offer this option consider doing so in an effort to facilitate adoption of EVs without making huge upfront financial investments.

## Potential Pilot with Renewable Energy

Pairing pilot deployment scale renewable energy with EV charging at James Madison University has been proposed. In 2012, the Virginia electricity generation portfolio consisted of primarily non-renewable fossil fuels. If renewable sources of electricity were used to charge EVs, more environmental benefits would result.

According to the Virginia Center for Wind Energy, James Madison University has access to 7.5 kilowatts of wind energy and 10.75 kilowatts of solar energy with the potential for charging electric vehicles. Between these two sources, there is power available for charging EVs. This demonstration could show that modest investments in renewable power can refuel electric vehicles.

## Promoting Workplace Charging

Although current data shows that most charging occurs at home, EVSE availability outside of the home will become increasingly more important, particularly for consumers who do not have access to garages or other forms of off-street parking. In an effort to encourage employers and retail businesses to install EV charging stations, REVi provides the following considerations relating to the development of workplace charging programs.

## Level of Charge

Many potential EV consumers spend eight or more hours per day at their place of employment. Outside of the home, this presents the next most logical opportunity for EVs to charge. Long periods of inactivity are ideal for EV charging. Conveniently, EVs that are idle for eight or more hours at the workplace do not require Level 2 (240V) EVSE. A dedicated 15-amp, 120 Volt ground fault circuit interrupter branch circuit and outlet is more than adequate for the vast majority of workplace charging. Level 1 charging, as described above, is a much less expensive solution that may allow an employer to install several receptacles for the price of one Level 2 EVSE.

An employer may want to consider making one or two Level 2 EVSE available for employees that need to travel during the day and thus require a faster charge than is available with Level 1 charging. Level 2 EVSE will almost always cost more than the Level 1 infrastructure, but it may be important to provide employees with a faster charging option if needed.

## Cost of Charging and Payment Collection

Each employer must decide whether to require its employees to pay for access to workplace charging. Some employers may decide to provide workplace charging for free. If so, they need to carefully consider any tax implications, as well as the degree to which workplace charging could be considered an employment benefit if charging is unrelated to job requirements. Furthermore, employers should be cognizant of potential concerns from employees who own ICE vehicles yet do not receive free gasoline. Ultimately, employers must carefully weigh the costs and benefits of subsidizing, even partially, access to workplace charging.

Employers who elect to assess a fee for workplace charging must decide how much to charge and how to collect the payment. Typically, workplace charging costs will consist of equipment and installation, electricity, and occasional maintenance. Employers who install Level 2 EVSE have the opportunity to use networks and other payment functionalities offered by EV service providers.

However, employers may install Level 1 outlets as a cheaper and easier solution than Level 2 EVSE. In order to collect payment, employers may choose to assess a fixed monthly fee for unlimited charging designed to recover infrastructure and electricity costs. Alternatively, they could identify a small fixed monthly fee, and then bill the employee monthly based on actual electricity consumption. Actual payment could be accomplished through payroll deduction. These examples are two of many different ways to assess and collect payment for access to workplace charging facilities.

## Controlled Access

The inherent nature of workplace charging makes it unlikely that employers will allow the public to use EVSE installed for employees. Consequently, employers should consider whether they will need to restrict access to the EVSE, and if so, to what extent. For example, an employer who already has a secure gated facility may not need to take additional measures if workplace charging is provided free to employees. However, an open lot or facility may warrant some type of access control. Similarly, if an employer requires their employees to pay for workplace charging, then access must be restricted solely to paying employees.

Several current Level 2 EVSE models use a subscription network that authorizes charging based on a monthly subscription or via point-of-sale credit card payments. Finally, some Level 2 EVSE models may be installed with a keypad built into the system that allows only those employees with the access codes to initiate charging events.

## Charging Rotation

There may be instances where demand for workplace charging outpaces the capability and/or willingness of the employer to provide EVSE. In these cases, employers might consider rotating vehicles in and out of charging spaces. This will likely be more relevant with Level 2 EVSE because they require shorter charging times. For example, a Level 2 EVSE may be able to fully recharge a vehicle in three to four hours assuming a commute of 40 miles, which suggests that the EVSE will be available for at least two EV owners during the course of an average workday. An employer wishing to install Level 2 EVSE will most likely have to devise a plan to rotate vehicles so the EVSE will be used throughout the work day.

Level 1 EVSE are typically most effective in situations where the vehicle will remain unused for several consecutive hours. As such, the need for charging rotation is considerably less. The additional Level 1 charge points reduce the need for charging rotation, and vehicles can remain parked and charging for the entire day.

## Human Resources Considerations

As mentioned earlier, providing free charging for employees may constitute taxable income, and employers should be cognizant of this implication in their decision making. Additionally, if extensive charging is provided for free, it may constitute an employee benefit if unrelated to employee job requirements, which could present tax implications for the employer and employee. Finally, employers with union-represented employees should refer to the union contract to determine if any obstacles exist with regard to union-represented employees.

In summary, prior to deploying a workplace EV charging program, employers should consult with their human resources department and/or legal labor and employment representation.

## Liability Concerns

Any employer who wishes to proceed with a workplace EV charging program should consult with legal counsel concerning their potential liability if an employee is injured while charging or if an equipment malfunction damages the employee's vehicle. Such an event may also trigger workers' compensation laws depending on the specific scenarios as they relate to state law. Some liability issues may be addressed in a contract between the employer and the employee, as permitted by state law. Employers should also verify if their general liability (or other) insurance policy will cover employee EV charging of personal vehicles. This may be accomplished by consulting with internal risk management or claims professionals, but should also include a specific request to the insurance company to determine if workplace EV charging is protected under the specific policy.

## Promoting Charging for Multi-unit Housing

Providing EV charging stations at multi-unit housing can be complicated. Few parking places at existing multi-unit dwellings have available circuits and most that do are limited to 120-volt service. Furthermore, parking for EVs in multi-unit housing often cannot be sited near the driver's electrical meter. Bringing adequate electrical service to the parking could require installing a new transformer and electrical panel. This affects both installation costs and fair payment for the power. Parking in multi-unit housing comes either bundled (cost included in with the dwelling) or unbundled. Some condominiums attach a specific parking place to the condominium owner's deed.

Non-resident owners may have few incentives to justify potentially expensive installations. Property managers and residents may lack the authority to approve equipment installations. The following actions are recommended to encourage the installation of EV charging stations to serve multi-unit housing:

- As a building permit requirement for new parking facilities, require that a percentage of the parking spaces include EV charging stations or conduit for future EV charging stations. The percentages would vary according to land use type as previously detailed in the REVi report.
- Utilize educational materials to assist both property owners and residents in understanding the legal barriers and solutions to installing charging stations and fairly assigning costs.
- If parking can be reassigned, locate the EV parking in clusters where installation is least expensive.
- Prioritize 120-volt service to assigned parking where cost of installation is relatively low.
- Place Level 2 charging stations at unassigned parking that will be shared. A number of sharing models will develop including networks to attribute costs and schedule appointments.
- For shared EV charging stations, use an EV service provider that charges hourly rates while the vehicle is plugged in. This will encourage moving the vehicle after charging and allowing another EV user to park and charge.
- Consider pairing a car sharing program with EV charging stations.
- Install Level 2 charging stations where the cable can reach more than one parking place.
- Run a new service from the electrical utility nearest parking and install EVSE with the capability of tracking costs for each user.
- Consider off-site locations in the neighborhood for EV charging such as churches, public schools, parks, and neighborhood retail centers.
- Apartment owners could add the convenience of EV charging as part of the service package (along with fitness centers and laundry facilities) associated with the property. Also, property owners could utilize an EV service provider to handle scheduling of patrons and payments for charging.

# Education and Outreach

## Introduction

Since EVs are an emerging transportation technology, many people simply are uninformed regarding their positive attributes. From training programs for automotive technicians and first responders, to a comprehensive outreach program designed to educate the general public on the benefits of EVs, educating the public is a critical component of any EV deployment plan. Through effective outreach, barriers including cost, performance and accessibility can be addressed. Education, training, outreach and communications were all used to inform and dispel misinformation about EV technology.

## Training

An education and training program, including the marketing of technician-oriented classes related to EVs, is essential to a plan for EV deployment in the region. J. Sargeant Reynolds Community College's Hybrid and Electric Vehicle Technology Certificate is an example of such a program. This certificate is designed to train automotive dealership employees, independent automotive technicians, safety inspectors, service and parts personnel and service writers regarding EVs.

In addition to training individuals in the automotive industry, it is important to educate first responders, EVSE installers and the general public.

### Technical Training for Our Future Automotive Technicians

J. Sargeant Reynolds Community College (JSRCC) is committed to aiding the Richmond community with the deployment of EVs. The College understands the changes occurring in the automotive industry and how they impact the community at-large.

In 2009 the US Department of Energy awarded a grant to the College to develop an advanced electric drive vehicle program. To prepare the region's automotive workforce to work with EVs, JSRCC developed a training program which offers students an array of automotive technology courses and certificates, including an Associates of Applied Science degree in Automotive Technology. An added benefit of the target marketing of this program to student audiences (approximately twenty thousand students) is the creation of EV awareness in the community at-large.

#### *Program Description:*

JSRCC's Career Studies Certificate is an accredited award or certification achieved from an abbreviated program consisting of fewer course hours than degree programs (Associate of Applied Sciences, for example). It provides an opportunity for upgrading occupational or technical skills, retraining for career change, and investigating new career possibilities.

The objective of the Hybrid and Electric Vehicle Technology Certificate is to train the automotive workforce in the Richmond Region on EV technology. Potential students include automotive dealership and independent shop technicians, safety inspectors, service and parts personnel and service writers.

The program is offered as an on-campus lecture and laboratory series. Plans are also underway to make the lecture element available to students online. The online option gives JSRCC the opportunity to expand its educational reach to other parts of the Commonwealth.

The curriculum requirements include the following courses:

- Introduction to Alternative Fueled & Hybrid Vehicles
- Control Electronics
- Electric Vehicles
- Plug-in Hybrid Electric Vehicles
- Hydrogen Fuel Cell Electric Vehicles

*Target Student Audience:*

The Hybrid and Electric Vehicle Technology certificate benefits any automotive technician or service representative working with the general public or corporate or public fleet programs including the following groups:

- Automotive Technology Associate of Applied Science alumni or currently enrolled students of JSRCC or other colleges
- Employers and government agencies with vehicle fleet management program
- Automotive dealer and independent shops
- National service enterprises (for example: Avis Car, Sears, and Firestone Tire)

REVi helped the college promote this program through its standard marketing efforts. These efforts included a brochure (Figure 19), mailings to current students and alumni, mass market media announcements, website banner announcements, intra-campus promotions in the campus newsletters and closed-circuit TV, and outreach to the greater Richmond high schools and trade centers.

**Hybrid & Electric Vehicle Technology Career Studies Certificate**

**Purpose:** This curriculum is designed to provide advanced automotive technical education to automotive technicians currently working in the field, students, and graduates of JSRCC's automotive program.

**Occupational Objectives:** Automotive Dealership Technician, Safety Inspector, Service Manager, Parts Specialist, Service Writer, and Independent Shop Automotive Technician.

**Admission Requirements:** Automotive electrical and electronics course completion or automotive industry experience.

**Program Notes:** Students are required to meet with the program head before registering for the first semester of study.

**Computer Competency Requirement:** Students in this program will meet the College's computer competency requirement by successfully completing ITE 115.

**All Automotive Instructors are ASE Certified:** Automotive Technicians educated at JSRCC can earn ASE certification and work in positions with the world's greatest automotive manufacturers and independent shops.

**Education and Advancement:** Automotive technology is rapidly growing in sophistication and employers are increasingly looking for technicians who have completed a formal automotive education program. With the emerging electric drive vehicle technology, educational programs are vital in maintaining a technician's ability to diagnose and repair today's cars.

Programs and courses are subject to change. For the most up to date program information, visit [www.reynolds.edu](http://www.reynolds.edu)

**What is the job outlook for Automotive Technicians?**

According to the US Department of Labor, persons with good diagnostic and problem-solving abilities, and whose training includes basic electronics and computer courses, should have the best opportunities. For well-prepared people with a technical background, automotive service technician careers offer an excellent opportunity for good pay and the satisfaction of highly skilled work with vehicles incorporating the latest in advanced technology. However, persons without formal automotive training are likely to face competition for entry-level jobs.

Employment of automotive service technicians is expected to grow faster than average through the year 2016 as the number of vehicles in operation increases. Additional job openings will be due to the need to replace a growing number of retiring technicians, who tend to be the most experienced workers.

Most persons who enter the occupation can expect steady work, even through downturns in the economy. Changes in economic conditions generally have minor effects on the automotive service and repair business.

Employment growth will continue to be concentrated in automobile dealerships and independent automotive repair shops. Many new jobs also will be created in small retail operations that offer after-warranty repairs, such as oil changes, brake repair, air-conditioner service, and other minor repairs generally taking less than four hours to complete.

J. Sargeant Reynolds Community College  
Goochland Campus | 1851 Dickinson Road  
804.371.3000 | [www.reynolds.edu](http://www.reynolds.edu)

**HYBRID & ELECTRIC VEHICLE TECHNOLOGY CAREER STUDIES CERTIFICATE**

**DON'T GET LEFT IN THE DUST.**

**J. Sargeant Reynolds Community College**

For more information contact:  
Lawrence Schwendeman  
804.523.5938  
Email: [lschwendeman@reynolds.edu](mailto:lschwendeman@reynolds.edu)

Figure 19: Brochure Used to Market Course

## EV Education and Training for the Greater Community

### *Workplace Charging Training:*

The REVi team reached out to local businesses to assist in the education of their employees on the positive attributes of owning an EV and using EV charging stations. REVi also assisted businesses in the development of EV charging station installation plans and workplace charging programs.

For example, REVi and JSRCC partnered with Capital One for a personal development training seminar on EVs for corporate employees. Recently, the company installed a number of charging stations in new parking garages at their corporate campus in the Richmond Region and initiated a workplace charging program. The session included a demonstration on how to charge an EV at one of the company's new charging stations, an overview of EV benefits and the opportunity to test drive an EV.

### *Personal Development Training:*

Based on REVi input, JSRCC created a 2 hour seminar to educate college employees and the general public about EVs. This seminar was first presented to college employees in March of 2013 and was attended by 30 individuals. Another seminar is scheduled for April of 2013. The same seminar will be presented to residents of Goochland County on a community day to be scheduled. This seminar is available to any community organization that wishes to help its members learn more about this new automotive technology.

### *First Responder Training:*

JSRCC and the Virginia Department of Fire Programs worked together develop a prototype class for first responder training in 2012. Using the fire training curriculum developed by the National Alternative Fuels Training Consortium, the College conducted an eight-hour course and lab for two groups of first responders: the Town of Colonial Heights Fire and Rescue and Caroline County Fire and Rescue.

Subsequently, the state contracted with the National Fire Protection Association to use their on-line training program for first responder basic training. The state's fire program works with local fire and emergency education programs to assure personnel understand how to work with an EV in dangerous situations such as vehicular accidents. The College has also added EVs into a course on fire behavior and combustion through the Fire Science Program.

## Jumpstarting EV Awareness: Outreach and Communications

The 2010 US Census reported that the typical Richmond Region driver uses a single occupant vehicle and has one of the lowest average commute times in the state. These two indicators have led many to believe that the region can benefit from the use of EV technology. However, public perception of EVs and consistent misinformation related to cost, accessibility and performance have provided a significant barrier for EV deployment in the region.

A professional and targeted outreach and communications program is critical in an attempt to dispel misinformation and provide a healthy environment for EV deployment.

REVi's initial phase of outreach concentrated on sharing the positive aspects of EVs with the Richmond Region's businesses, governments and citizens through both a top-down and bottom-up approach focusing on grassroots efforts and media exposure. REVi identified the following key components of an EV outreach strategy:

- Grassroots remote outreach through phone calls, e-mail marketing, internet, social media
- Earned media placements in order to spread the positive aspects of EVs to the general public to create a ripple effect
- Events focused on educating key influencers in the community as well as the general public

### Grassroots Outreach

Grassroots outreach provides an opportunity to create a growing advocacy network for EVs and can result in a ripple effect as each person tells another person and that person tells someone else. The following is a sampling of REVi grassroots outreach activities the project implemented and suggests as part of an EV deployment plan that can be repeated elsewhere.

### Starting an EV Car Club

Local EV Clubs are good grassroots networks for electric vehicle owners and enthusiasts. REVi repeatedly partnered with the nascent Richmond Electric Vehicle Club to support their events and programs and to acquire demonstration vehicles. REVi partners hosted the club for meetings at JSRCC and assisted the club with brainstorming ideas to increase membership. REVi also presented its plan, while JSRCC provided an overview of its EV technology courses.

## Internet Outreach

When conducting an outreach campaign, it is important to provide a portal where interested individuals and organizations can find information. The REVi project established [VirginiaEV.org](http://VirginiaEV.org) to service this purpose and regularly used this website as a portal for posting EV news in the region.

E-mail marketing serves as an effective means for sharing news and information about upcoming EV events. REVi built a substantial Constant Contact e-mail list of nearly 500 individuals with a direct interest in EVs in the region.

## Social Media and Digital Advocates

In 2012 *Outside Magazine* held a contest on Facebook to see which “river city” its readers thought was the coolest place to live. Based upon the number of Facebook “likes,” Richmond won by a landslide. The Richmond community is recognized nationally as one of the most connected groups in the country when it comes to social media outlets such as LinkedIn, Facebook, Twitter, YouTube, Tumblr and others.

A social media network can provide value in reaching a targeted audience with an interest in responding to, or sharing EV messages. The REVi social media network has three components: building the Richmond Electric Vehicle profile, attracting members to connect or join, and maintaining an on-going dialogue with members of the social group about relevant content.

REVi was successful at building the Richmond Electric Vehicle profile on LinkedIn, Twitter and Facebook.

- REVi created a LinkedIn group called Richmond Electric Vehicle Group and invited area stakeholders to join. LinkedIn served as an effective means of sharing EV news and REVi event announcements with the business community.
- REVi utilized the Virginia Clean Cities Facebook page (see Figure 20) to promote REVi activities, EV news and promotions for EVs in the region. REVi made sure to “like” various EV stakeholders including dealerships, manufacturers and interested environmental groups. This resulted in many of these groups opting to “like” the Virginia Clean Cities Facebook in return and stay up-to-date on EV news and REVi happenings.



Figure 20: Virginia Clean Cities Facebook Page

- REVi utilized the Virginia Clean Cities Twitter account to share content, event information, and networking messages with interested stakeholders across the region as well as media. Similar to the REVi Facebook strategy, REVi “followed” various stakeholders and media and tweeted them to ensure that they would become more engaged in the EV dialogue on the Virginia Clean Cities Twitter (see Figure 21). REVi was very successful at tweeting partner organizations and utilizing hash tags, resulting in a high retweet level and opening REVi’s EV messages to a much larger and varied audience.



Figure 21: Example Tweet

Attracting additional members to connect and join in on social media platforms can also be accomplished by offering incentives. In the Outside Magazine Facebook contest mentioned previously, when members voted, they were given a chance to win a trip. On-line promotions could help build EV connections in Richmond and in many cases beyond the Richmond geographic area. Give-aways relevant to the EV owner experience could be especially effective in increasing participation on social media platforms.

Maintaining an on-going dialogue requires social media advocates to produce or re-post content which is conversational in nature and incites others to join. This content must be relevant for Richmond EV owners and interested parties.

## Phone Campaigns

In order to gauge interest and build advocates for EV and EVSE adoption as well as extend invitations to our Business Case for Electric Vehicle Charging Stations Forum, the project directed phone calls to targeted high-impact groups. These groups included the region's top 50 employers, local governments, trade associations, shopping centers and hotels. REVi used these calls as an opportunity to provide EV education and gauge which groups have an interest in purchasing an EV or charging station and which groups would like to learn more. REVi then conducted follow-up phone calls and provided additional information as needed. For example, the Westin Hotel informed REVi that they included charging stations in their sustainability plan. These phone calls, in addition to other outreach modes, resulted in nearly 100 attendees at REVi's Business Case for Electric Vehicle Charging Stations Forum.

## Earned Media Campaign

Earned media, favorable publicity garnered through promotional efforts other than paid advertising, is an effective way to spread the positive aspects of EVs to the general public and create an outreach ripple effect throughout the region. Earned media placements have been a cornerstone of REVi's outreach success, and REVi has incorporated media outreach into a variety of events and activities.

For general events, REVi drafted a media advisory in order to alert the media to the significance of the event and provide an event overview (see Figure 22). In some cases, REVi designed events specifically in order to generate news and facilitate media coverage. An example of one such event was the First Official Plug-in at the First Hotel Charging Station in Richmond with Mayor Dwight Jones. This event was extremely successful in generating print, radio, television, on-line and social media coverage about the vehicles and infrastructure.

In addition to events, REVi discovered that the EV story is an "evergreen" business story in the Richmond Region. Virginia Clean Cities currently maintains a working relationship with media outlets throughout the region, and this relationship was leveraged to promote on-going discussions about the technology, the vehicles and charging infrastructure and public policy. "Evergreen stories" regarding EVs provide an opportunity to give a status update on the state of EVs in the region and current technology advancements and benefits. One such media placement garnered by REVi was a business video interview with the *Richmond Times-Dispatch* (Virginia's statewide newspaper of record). The interview took the form of telling the story about what businesses should consider when deciding between a hybrid and an EV.



Figure 22: Example Media Clip

See Appendix 4 for additional media clip examples.

## Events

In order to generate buzz about EVs in the Richmond Region and engage interested organizations, key influencers, media and members of the general public, targeted events can be a powerful outreach tool. Throughout the course of the REVi project, a number of large events garnered attention and spread REVi messages across the region.

The purpose of these informational gatherings was to familiarize the audiences on the economic and environmental advantages of using EV technologies and to gather feedback on community impact.

Activities performed:

- Hosting stakeholder workshops on infrastructure requirements
- Creating and promoting public access information (movies/videos) on EVs
- Teaming with local automobile dealers on new vehicle launches
- Assisting businesses with employee education on EV benefits and charging station use
- Educating Richmond businesses on the economic and environmental benefits of installing charging stations for their customers

The following are examples of some of the events conducted:

### *REVi Kick-off Meeting:*

This meeting was held for Advisory Board and Working Group members as well as individuals from REVi's many partner organizations. It served as a general organizational meeting for the project and succeeded in building initial momentum among partner organizations for project activities.

### *Richmond Electric Vehicle Workshop:*

In the early months of the project, REVi held a workshop at the Virginia Housing Center including a presentation on ECOtality's EV Project infrastructure study and a general EV technology overview. With approximately 50

individuals attending, this event was successful at continuing to build enthusiasm among partner organizations, government leaders and the public at-large.

*Richmond Electric Vehicle Rally and Screening of “Revenge of the Electric Car:”*

In partnership with JSRCC, Sierra Club and the Sustainable Transportation Initiative of Richmond, REVi hosted a screening of the documentary *Revenge of the Electric Car* in order to generate positive buzz about EVs in the region and dispel misinformation. Local automobile dealers offered test-drives to attendees. The event resulted in press coverage in the *Richmond Times-Dispatch* (statewide newspaper) and on National Public Radio. This event served to launch REVi’s efforts in providing information to the general public. The media coverage exposed EV technology to the entire Richmond Region.

*Local EV Launch and Promotion:*

REVi teamed up with Ford Motor Company, Richmond Ford, Richmond International Raceway, and NASCAR to launch Ford Motor Company’s first all-electric car, the Focus Electric (see Figure 23). Adding to the local news value, the Focus Electric went on sale in Richmond as one of the first markets across the country. REVi assisted with promoting a press conference to make the announcement with Bill Bolling, Lieutenant Governor of Virginia. In addition, REVi assisted with promoting a Focus Electric ride & drive event for the general public at Richmond Ford. Finally, using a grassroots approach, REVi promoted the benefits of using an all-electric vehicle the day of the race by passing out informational EV materials to attendees. The Focus Electric was featured as the first all-electric pace car for a NASCAR race, and the sequence of events around the Focus Electric resulted in significant positive regional and national media exposure for EVs.



Figure 23: Focus Electric at Richmond International Raceway

## Strategic Meeting and Conference Presentations

REVi found it useful to deliver targeted presentations on EV technology and deployment plans at key meetings in the Richmond area as well as throughout the country. The following are examples of events at which REVi presented:

- 2012 Association for Commuter Transportation Conference in Savannah, Georgia
- Plug-In 2012 Conference in San Antonio, Texas
- City of Richmond Department of Economic Development meeting
- Metropolitan Planning Organization Board Meeting
- Virginia Commonwealth University: Urban Planning Guest Lecture
- City of Richmond Planning meeting
- Virginia Commonwealth University Energy and Sustainability Conference: Alternative Fuel Panel
- Virginia Department of Mines, Minerals & Energy: Energy Division Staff Meeting
- Meetings of planning departments from localities across the region
- Sustainable Transportation Initiative of Richmond Meeting
- North Carolina PEV Readiness meeting
- Retail Merchants Association meeting
- Washington, DC EV Taskforce meeting

## Student Outreach

The REVi team presented the documentary *Revenge of the Electric Car* to automotive students at Hanover Center for Trades and Technology. Following the screening, REVi answered questions and prompted discussion on the benefits of EVs. Outreach initiatives such as this are valuable in reaching the next generation of EV owners and industry employees.

REVi partnered with Virginia Tech's EcoCAR team on their outreach effort, including events and demonstrations with their student engineered electric vehicle. In addition, REVi included the team on planning efforts and provided exposure through [VirginiaEV.org](http://VirginiaEV.org).

## Business Case for EV Charging Stations

An important aspect of increasing the demand for EV use is for business owners to understand the economics of installing EV charging stations for their customers and employees.

Virginia Clean Cities and their REVi partners, including the Richmond Omni Hotel, hosted an informational presentation on EV charging stations for the Richmond business community. The program featured a presentation from National Electrical Manufacturers Association and several charging station manufacturers. The highlight of the presentations was the testimony of local businesses that are using charging stations to satisfy a customer need, generate revenue, and offer an employee benefit.

REVi incorporated a news element into the event by inviting City of Richmond Mayor Dwight Jones to perform the first official plug-in of the first charging station at a Richmond hotel (see Figure 24). The event garnered significant media coverage including TV, radio, print, on-line and social media for EV technology and its benefits.

The Omni Hotel's Business Case for Electric Vehicle Charging Stations Case Study can be found in Appendix 3.



Figure 24: First Official EV Plug-in with Mayor Dwight Jones

## Tax Credit Workshop

Through the REVi project, Virginia Clean Cities partnered with the Virginia Society of Certified Public Accountants for a workshop providing an overview of how tax credits and incentives for alternative fuel vehicles (including EVs specifically) work. The workshop included presentations on alternative fuels with a focus on EV technology, followed by a tax credits and incentives presentation by a tax expert and CPA. Attendees then had the opportunity to ask questions. A reporter from National Public Radio also attended the event and conducted interviews with REVi partners and the tax expert.

## Networking

REVi attended many local networking events. These gatherings provided a venue to educate the Richmond Region's business and community leaders on EV and EVSE.

A sampling of networking events is shown in Table 8:

Organization or Event	Educational Impact
Urban Land Institute of Richmond	Involved land planning for Richmond Region. Members include municipal planners, business owners and home contractors.
Press Conference: Plugless Power	Virginia based EV power manufacturer announces a plugless power charger. Attended by state officials (including the governor) and business owners.
Leadership Metro Richmond	Presented REVi message to leadership organization.
Greater Richmond Chamber of Commerce, Hanover Business Council	Networked with local businesses.
Richmond Earth Day Festival	Attended and distributed EV technology material on behalf of City of Richmond Sustainability Program.
Local Chevy Dealers' Networking Event	Represented REVi's message on EVs.
Virginia Chamber of Commerce	Presented to Environment Committee on REVi policy issues.
Richmond Retail Merchants	Represented REVi's message on EVs and charging stations during their Recycle Day campaign.

Table 8: Sample Networking Events

## Marketing Materials

Marketing materials and content are necessary to inform the general public of the benefits and costs savings one enjoys while using the new technology. In a fun and informal manner, the myths and misunderstandings of an EV can be communicated to Richmond consumers and business owners. The message must show Richmond in a leadership role, setting an example for other towns and cities throughout the region and the Commonwealth to follow.

The marketing materials include video, handouts and giveaways.

### Video

A video with local consumer interviews can quickly address barriers associated with EVs. By showing members of the local community interacting with EVs and EVSE in their everyday life, a powerful message can be sent to the public. Videos can be made available for distribution through all public service channels and virtual channels such as YouTube and other social media outlets. REVi has secured interviews with consumers and is currently in the process of producing a video to tell the local EV story and address barriers.

### Informational Handouts

Handouts provide a tangible way to educate the public about the myths and misunderstandings surrounding EVs. Handouts must incorporate relevant data including evidence to address the various EV barriers. The pamphlets should be available for distribution during various events and meetings.

Types of informational handouts and their target audience are shown in Table 9 below:

Target Audience	Topic
Consumer	Myths of Purchasing and Owning an EV
	Benefits and Economics of Owning an EV
Retailer	Business Case of Installing Charging Stations for Customers
Employer	Workplace Charging Opportunity for Employees
Property and/or Fleet Managers	Site Selection for EV charging: Comprehensive Vehicle Information for Fleet Managers

Table 9: Types of Informational Handouts

REVi created content and made use of handouts from the Department of Energy and Virginia Clean Cities to address barriers associated with EVs. See Appendix 4 for examples of handouts.

### Give-away Products

For community events and business and social meetings, tangible products of nominal value should be available to promote EV technology awareness. The types of products include, but are not limited to, bumper stickers, antenna balls, auto shades, key chains, and pens.

## Summary of Education and Outreach

Public perception of EVs and misinformation related to cost and accessibility create significant barriers for EV deployment in the Richmond Region and across the Commonwealth. Therefore, this project required a comprehensive outreach and communications program. Continued efforts for communication and outreach are recommended because this technology continues to rapidly evolve and much of the population still operates with misinformation.

# Conclusion



Electric vehicle deployment in Virginia will assist statewide efforts to reduce vehicle emissions, increase energy independence, and generate positive economic development for the Commonwealth. This Richmond Electric Vehicle Initiative (REVi) Plan for Plug-in Electric Vehicles and Charging Infrastructure is a critical milestone in moving the Commonwealth one step closer to an oil-free future.

REVi partners have already initiated activities in many areas such as public outreach and education, policy development, and pilot programs that are advancing deployment. As this Clean Cities-sponsored project concludes, our stakeholder coalition is ready to move forward using the information developed and to promote action on the key recommendations described in the plan's Executive Summary. It is REVi's hope that these recommendations become a framework that benefits localities across the Commonwealth while they enact their own unique plug-in electric vehicle and infrastructure planning.

# Works Cited



Access Board. 2002. ADA Accessibility Guidelines for Buildings and Facilities.  
<http://www.access-board.gov/adaag/html/adaag.htm>.

California Center for Sustainable Energy. 2012. *California Plug-in Electric Vehicle Owner Survey San Diego, CA*.  
<http://energycenter.org/index.php/incentive-programs/clean-vehicle-rebate-project/vehicle-owner-survey>.

Department of Justice. 2010. 2010 ADA Standards for Accessible Design.  
[www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.pdf](http://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.pdf).

Mayfield, David. 2012. EV Charging for Persons with Disabilities. Sustainable Transportation Strategies.  
<http://www.vacleancities.org/wp-content/uploads/EV-Charging-ADA-Version-1.0s.pdf>.

Ponticel, Patrick. J1772 “Combo Connector” shown at 2012 Electric Vehicle Symposium.  
<http://ev.sae.org/article/11005>.

SAE Hybrid Committee. 2011. SAE Charging Configurations and Ratings Terminology. SAE International.  
<http://www.sae.org/smartgrid/chargingspeeds.pdf>.

Virginia Department of Transportation. 2011. Virginia Supplement to the Manual on Uniform Traffic Control Devices. [http://www.viriniadot.org/business/virginia\\_mutcd\\_supplement.asp](http://www.viriniadot.org/business/virginia_mutcd_supplement.asp).

# Acknowledgments

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Dominion Virginia Power  
Eaton Corporation

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Advanced Vehicle Research Center  
General Motors  
Hubbell  
J. Sargeant Reynolds Community College  
James River Air Conditioning

## Policy and Incentives Working Group

ECOtality  
Urban Grid Solar  
Virginia Department of Housing and Community Development  
Virginia Sierra Club  
Volkswagen

## Other Planning Partners

Advanced Energy  
AeroVironment  
Capitol One  
CarCharging Group  
Charles City County  
Chesterfield County  
ClipperCreek  
Crater Planning District Commission  
Dominion Electric Vehicles  
Fuji Electric Corporation  
Goochland County  
Greater Richmond Chamber of Commerce  
GreenTech Automotive  
Hall Automotive  
Hanover County  
Henrico County  
James Madison University  
Motor Vehicle Dealer Board  
National Electrical Manufacturers Association  
National Governors Association  
New Kent County  
Omni Richmond Hotel  
OpConnect  
Powhatan County  
Retail Merchants Association  
Richmond Ford Lincoln  
Richmond Homebuilders Association  
Rocky Mountain Institute: Project Get Ready  
Science Museum of Virginia  
Sheehy Nissan of Richmond  
State Corporation Commission  
The Capital Region Collaborative  
Town of Ashland  
Virginia Automobile Dealers Association  
Virginia Commonwealth University  
Virginia Department of Environmental Quality  
Virginia Department of Transportation  
Virginia Department of Motor Vehicles  
Virginia Economic Development Partnership  
Virginia Society of Certified Public Accountants  
Virginia Tech  
Werres Corporation

# Appendix 1. EV Charging Station Installation Checklist

The following template is provided as an example of an EVSE permitting and installation checklist that local governments can make available in their permitting and planning offices. Once a publicly acceptable vehicle charger is installed, the location, details, and contact information should be submitted to local or state Clean Cities Coordinator (Virginia Clean Cities) for public map.

Municipal Logo	Electric Vehicle Charging Station Installation Checklist (Template)		
	Project Name:	Date:	
	Project Address:		
	Magisterial District:	GPIN/Tax Map #:	
	Developer Name:	Phone:	
	Address	Email:	
<b>Zoning, Permitting and Physical Requirements</b>			
Y	?	N	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. Is the charging facility for public ___ or private ___ use ? (check which applies).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Does current zoning prohibit electric vehicle charging?      Current Zoning Classification: _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Determine and obtain planning and permitting applications requirements to install EVSE.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Is electric vehicle charging currently on site?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Determine the site ADA requirements to address and upgrades to current site conditions.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Select the anticipated Charging Level : Level 1___, Level 2___, Direct Charging Level 1___, Level 2___, (check all that apply)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. Siting proximity to the building and parking facilities and access to multiple building entry points.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Adjacency to accessible parking and accessible routes.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9. Availability of Electrical Supply.      Approximate distance to a transformer or electric panel: _____.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10. Is adequate lighting is required per code.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. Electric vehicle charging and way-finding signs are provide and conform to municipal approval.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. Planning future expansion of electric vehicle charging infrastructure is provided with this installation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. Electric vehicle chargers have communication ability, either (cellular, wired or wireless).
<b>Managerial Requirements</b>			
Y	?	N	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14. Determine cost of utility extensions, electric vehicle supply equipment (EVSE) and cost recovery practices
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15. Determine maintenance requirements and maintenance plan for EVSE.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. Fee for Charging: Determine how the fee is set, collected and administered
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17. Determine use times and or hours for charging.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18. Data Collection - provide the permitting agency with information on the station's location, date of installation, equipment type , model number and owner contact information.
<b>Future Planning</b>			
Y	?	N	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19. Determine future EVSE locations and utility upgrades, if required. Install conduit for future EVSE expansion.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20. Research future power distribution requirements.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21. As Electrical vehicle charging increases - research the user base to evaluate the need for additional infrastructure and location.

# Site Selection Checklist



Electric Vehicle Supply Equipment (EVSE) site selection is important to an efficient and effective electric vehicle transportation infrastructure.

## Use this checklist to identify good EVSE site locations:

- Will the site be available for public access?
- Is the site in a high trafficked or attended area?
- Is the site spread out from other charging stations?
- Will the site be highly visible?
- Will the site be an area where people plan to spend at least a 1/2 hour?
- Will the site be capable of network connectivity through a cell signal or WIFI?
- Is the site safe for public access? (i.e. away from moving traffic and other hazards and well lit if nighttime charging is anticipated)

## Useful tips and info

Good charger density and visibility can aid in reduction of range anxiety and extend public awareness of electric vehicles. Through careful planning, we can anticipate future needs and place groundwork to expand as EV base matures.

Installation cost will vary greatly depending on the proximity to a power source, so efforts should be made to balance cheap parking spaces with visible parking spaces. Parking lots are ideal locations, especially ones that are high capacity and have high traffic during all times of the day and night.

To increase public awareness and visibility, consider including educational displays at the site. City-vehicle or visible special fleet only locations can promote the message as well.

Public Map of EVSE in Virginia:  
<http://www.afdc.energy.gov/afdc/locator/stations/>

Please register EVSE online at [http://www.afdc.energy.gov/afdc/progs/station\\_form.php](http://www.afdc.energy.gov/afdc/progs/station_form.php) or submit by phone to 540-568-8896 or by email [aharned@hrccc.org](mailto:aharned@hrccc.org)



## Business Case for Electric Vehicle Charging Stations Omni Richmond Hotel - Richmond, VA

The Omni Richmond Hotel has installed the first charging station at a hotel in Richmond. The \$2,000 charging station installed at the Omni Hotel has already paid for itself in revenue generated by new guests. They have selected the hotel based on access to an electric vehicle charging station during their stay.

In addition to generating revenue, the Omni Richmond Hotel views the charging station as a way to generate community exposure and reduce the hotel's environmental impact. The first official plug-in and Business Case for Electric Vehicle Charging Stations Forum event, hosted by Virginia Clean Cities at the hotel generated a statewide "buzz" about the positive impact associated with installing an electric vehicle charging station.

### ***New business impact***

- Ten new reservations made in first two months specifically because of the electric vehicle charging station
- Competitive advantage over other Richmond hotels
- Many reservation requests inquire about hotel's green efforts
- Virginia state government has a goal to utilize green hotels
- Strong statement on commitment to the environment

### ***Exposure within community***

- Guests and prospective associates notice the charging station
- The charging station has gotten media attention including radio, TV, print and social media

### ***Environmental impact***

- Zero tailpipe emissions for commuters and guests through cleaner electric vehicles



## Get in Touch

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## Appendix 4. REVi Earned Media Examples

### Newspaper Articles (Print)

#### Jones cheers opening of new car-charging station

Richmond Times-Dispatch – October 17, 2012

**Jones cheers opening of new car-charging station**

Richmond mayor, group tout benefits of green ventures

BY ROBERT ZULLO  
Richmond Times-Dispatch

Mayor Dwight C. Jones helped officially open the first electric car charging station at the Richmond Omni on Wednesday following an event at the hotel that made the case for installing the stations as a sound business decision.

Organized by Virginia Clean Cities, a nonprofit partnership between government and industry that promotes alternative fuel vehicles and infrastructure, the forum, called the "Business Case for Electric Vehicle Charging Stations," ended with Jones plugging in an electric Ford Focus in the hotel's garage.

Richmond, with about nine charging stations across the area, is among the launch markets for the all-electric Focus, and the city also received a \$460,000 federal grant that has funded the Richmond Electric Vehicle Initiative, a planning and education study organized by the city, state and Dominion Virginia Power to promote electric vehicles, said Alleyn Harned, Virginia Clean Cities' executive director.

"Electric vehicles and infrastructure represent an opportunity for individuals and businesses to advance energy, economic and environmental security through reducing petroleum," Harned said in a news release.

Harned said the charger cost the hotel about \$2,000 and has since paid for itself in guests that seek the hotel out because of the opportunity to charge their cars.

"It turns out to have been a great business decision," he said.

In a statement, Jones said the effort to increase the availability of charging stations fits with goals of the city's RVAgreen sustainability plan, including lower greenhouse gas emissions.

"The RVAgreen Plan supports electric vehicles and charging stations because they provide options that are more economically competitive and environmentally resilient than traditional vehicles," Jones said.

[rzullo@timesdispatch.com](mailto:rzullo@timesdispatch.com)  
(804) 649-6998

#### Newspaper Online Video Interview

Richmond Times-Dispatch – August 13, 2012

Metro Business asked Michael Phillips, project manager for Virginia Clean Cities, about what businesses should consider when deciding between a hybrid and electric vehicle.

Full interview: <http://www2.timesdispatch.com/business/2012/aug/13/tdmbiz16-60-seconds-with-michael-phillips-ar-2126380/>

**60 Seconds with: Michael Phillips**

Recommend Be the first of your friends to recommend this. Recommend this on Google

**Michael Phillips**  
Project manager for Virginia Clean Cities

60 Seconds with... Michael Phillips  
RICHMOND, Va. — Metro Business asked Michael Phillips, project manager for Virginia Clean Cities, about what businesses should consider when deciding between a hybrid or electric vehicle.

Post a Comment for this Video  
View More Videos

#### Public gets chance to test electric cars

Richmond Times-Dispatch – April 17, 2012

**Public gets chance to test electric cars**

Hunter Benes, a Chevrolet Volt owner, tried out a Nissan Leaf on Monday during the Richmond electric vehicle rally, a kickoff event for the Richmond Electric Vehicle Initiative project. The event at J. Sargent Reynolds Community College's Parham Road campus included more than half a dozen electric vehicles and drew 30 to 40 people. The event also featured a screening of the 2011 documentary "Revenge of the Electric Car," which chronicles the story of the renewed interest in electric car development. The U.S. Department of Energy has awarded a planning grant to Virginia Clean Cities and the state Department of Mines, Minerals and Energy for the \$430,000 Richmond Electric Vehicle Initiative to help make the region a market for electric vehicle technology. More than 50 organizations have joined in the effort.

**Richmond electric vehicle rally** See what happens when the public is invited to drive electric cars. At [TimesDispatch.com](http://TimesDispatch.com), search gallery.

**All-electric Ford to set RIR pace**

Ford Motor Co. will become the first manufacturer in NASCAR history to supply an all-electric car as the pace car.

The new Focus Electric will lead the field at the April 28 Sprint Cup Series race at Richmond International Raceway.

Ford research shows the majority of Americans would consider buying an electrified vehicle but do not yet understand the different technologies, Mark Fields, president of Ford's Americas division, said Monday.

"Highlighting the Focus Electric as a pace car is a fun way to educate consumers about the kinds of benefits our electrified vehicles deliver and show people our commitment to provide Ford customers the power of choice for leading that economy in the vehicle that best meets their needs."

The car will be unveiled to the public at the Virginia Capital on April 25.

Ford also was the first to use a hybrid vehicle as pace car when the Fusion Hybrid led the field at Homestead in 2008. Ford in January unveiled its Fusion as its 2013 car to be used in NASCAR competition.

## Joint Program Press Release

City of Richmond – October 16, 2012

Press release for the official plug-in at the first public charging station at a Richmond Hotel with Mayor Dwight Jones, City of Richmond and Virginia Clean Cities.



For Immediate Release  
October 16, 2012

Contact: JayEll Vaughn  
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[JayEll.Vaughn@RichmondGov.com](mailto:JayEll.Vaughn@RichmondGov.com)

Michael Phillips  
(434) 760-4485  
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### **Mayor Jones to Perform Official Plug-in at First Electric Vehicle Charging Station Located at a Richmond Hotel**

- WHO:** Mayor Dwight C. Jones  
Michael Phillips, Virginia Clean Cities Project Manager  
Christopher Alto, Richmond Omni Hotel Manager
- WHAT:** Opening of Richmond Omni Hotel's first public charging station
- WHEN:** **Wednesday, October 17, 2012 at 11:30 a.m.** (Forum begins at 8:45 a.m.)
- WHERE:** Omni Richmond Hotel  
100 South 12<sup>th</sup> Street  
Richmond, VA 23219

#### **Background:**

The City of Richmond has been an important partner in the Richmond Electric Vehicle Initiative --- a planning grant for electric vehicles through the Clean Cities Community Readiness and Planning for Plug-In Electric Vehicles and Charging Infrastructure grant.

"This effort fits into Richmond's triple bottom line goals of the City's RVA Green plans of sustainability and will help lower greenhouse gas emissions in the city," comments Mayor Dwight C. Jones.

"Electric vehicles and infrastructure represent an opportunity for individuals and businesses to advance energy, economic, and environmental security through reducing petroleum," said Alleyn Harned, Executive Director of Virginia Clean Cities.

Prior to the official plug-in, Virginia Clean Cities is hosting the *Business Case for Electric Vehicle Charging Stations Forum* at the Omni Hotel. The event will provide an overview of electric vehicles and make the case for installing electric vehicle charging stations. In addition, this is one of the first times in Richmond that the Ford Focus

Electric, Tesla Model S and Fisker Karma electric vehicles will be available for test drives. The forum will begin at 8:45 a.m. in the Magnolia Room on the 1<sup>st</sup> floor.

*To schedule interviews or electric vehicle demonstrations with Virginia Clean Cities, please contact Michael Phillips at (434) 760-4485 or [mphillips@vacleancities.org](mailto:mphillips@vacleancities.org).*

###

## Newspaper Articles (Electronic)

### **Richmond hotel offers electric-car charging station**

*Richmond Times-Dispatch* – October 18, 2012

Mayor Dwight C. Jones helped officially open the first electric car charging station at the Richmond Omni on Wednesday following an event at the hotel that made the case for installing the stations as a sound business decision. Organized by Virginia Clean Cities, a nonprofit partnership between government and industry that promotes alternative fuel vehicles and infrastructure, the forum, called the “Business Case for Electric Vehicle Charging Stations,” ended with Jones plugging in an electric Ford Focus in the hotel’s garage.

Full Article: [http://www.timesdispatch.com/news/richmond-hotel-offers-electric-car-charging-station/article\\_2928b87a-06ea-535e-95b1-fd40d623125e.html](http://www.timesdispatch.com/news/richmond-hotel-offers-electric-car-charging-station/article_2928b87a-06ea-535e-95b1-fd40d623125e.html)

### **Now he can charge up his car at VCU**

*Richmond Times-Dispatch* – July 11, 2012

Russell Beyer has the electric vehicle and the will to use it for his Richmond-area tax business. He just needs more opportunities to charge it while he makes his rounds. “I’ve charged it since I’ve been here,” Beyer said after a news conference Tuesday in the Virginia Commonwealth University parking deck on West Broad Street. The two charging stations in the VCU garage are among an estimated 128 in Virginia, including two more electric vehicle chargers in a staff and faculty garage on the university’s medical campus.

Full Article: <http://www2.timesdispatch.com/news/virginia-news/2012/jul/11/tdmet02-now-he-can-charge-up-his-car-at-vcu-ar-2048020/>

### **Plug Into Options for Electric Cars**

*The Virginian-Pilot* – June 3, 2012

If you’re considering a new car purchase, an electric car might be worthy of consideration for the first time since the Turkey Trot was a national craze. While the thought of never visiting a gas station again holds appeal, there are things to consider before you take the plunge.

Full Article: <http://www2.timesdispatch.com/business/2012/jun/03/tdmony01-ready-to-plug-in-weigh-the-options-for-el-ar-1961335/>

## Electronic Magazine Articles

### **Virginia Plugs In: Official Plug-In at First Hotel Charging Station in Richmond, VA** *Fuels Fix* – Winter 2013

Full Issue: [http://issuu.com/jgoverly/docs/fuelsfix\\_winter2013-final/23](http://issuu.com/jgoverly/docs/fuelsfix_winter2013-final/23)

**VIRGINIA PLUGS IN**  
Official Plug-In at First Hotel Charging Station in Richmond, Virginia

Mayor Dwight C. Jones performed the first official plug-in at the first hotel charging station in Richmond at the Richmond Omni Hotel last October following the Business Case for Electric Vehicle Charging Station Forum, hosted by Virginia Clean Cities. The forum provided an overview of electric vehicles and made the case for installing electric vehicle charging stations through local case studies. The charging station installed at the Omni Hotel has already paid for itself in revenue generated by guests that have chosen the hotel based on access to a charging station during their stay.

In addition to generating revenue, Chris Alto, General Manager of the Omni Richmond Hotel, looks at the charging station as a way to generate community exposure and reduce the hotel's environmental impact. The first official plug-in and forum event itself generated

a statewide “buzz” about electric vehicle charging stations. “Electric vehicles and infrastructure represent an opportunity for individuals and businesses to advance energy, economic, and environmental security through reducing petroleum,” said Alleyn Hamed, Executive Director of Virginia Clean Cities. “The Omni Richmond Hotel’s business story is a compelling one.”

The City of Richmond has been an important partner in the Richmond Electric Vehicle Initiative—a planning grant for electric vehicles through the Clean Cities Community Readiness and Planning for Plug-In Electric Vehicles and Charging Infrastructure grant. Richmond Mayor Dwight Jones said of the initiative, “These planning efforts fit into Richmond’s triple bottom line goals of sustainability and will help lower greenhouse gas emissions in the city.”

(L to R) Chris Alto, Omni Richmond Hotel; Michael Phillips, Virginia Clean Cities; Mayor Dwight C. Jones; Alleyn Zatzoff, City of Richmond Sustainability Manager; Jason Furber, Richmond Ford perform the official plug-in at the first charging station at a Richmond hotel

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## Social Media Coverage – Facebook

### Mayor's Office, City of Richmond



## Social Media coverage – Twitter



Other Electronic Media

City of Richmond Website



City of Richmond Blog





c/o James Madison University  
701 Carrier Drive, MSC 4115  
Harrisonburg, VA 22807

Phone: 540.568.8896  
[www.vacleancities.org](http://www.vacleancities.org)  
[www.virginiaev.org](http://www.virginiaev.org)  
March 2013

## DIVISION 2. - HIGHWAYS, STREETS, PARKING AND LOADING

### Sec. 24-52. - Statement of intent.

This division seeks to effectively manage traffic flow and to provide for an adequate number of parking spaces for vehicles while creating and maintaining vehicle areas which are safe, attractive, and functional for pedestrians and motorists. The ordinance establishes minimum standards for parking and is intended to be flexible in order to reduce impervious surfaces, monetary costs, and improve the function and appearance of parking areas.

(Ord. No. 31A-199, 7-13-99)

### Sec. 24-53. - Widening of highways and streets.

Whenever there shall be plans in existence, approved by either the State Department of Transportation or by the governing body, for the widening, extension or construction of any street or highway, the commission may require additional setbacks and yards for any new construction or for any structures altered or remodeled adjacent to planned roads or planned roads shown on county approved development plans, or the dedication or reservation of additional right-of-way in order to preserve and protect the planned road for such proposed street or highway as part of its review of subdivision plats, site plans or master plans.

(Ord. No. 31A-88, § 20-11, 4-8-85; Ord. No. 31A-199, 7-13-99)

### Sec. 24-54. - Minimum off-street parking.

There shall be provided at the time of erection of any main building or at the time any main building is enlarged, except detached single-family residential units, minimum off-street parking with adequate landscaping as required in article II, division 4 of the zoning ordinance and provision for entrance and exit by standard-sized automobiles, as provided herein.

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99)

### Sec. 24-55. - General provisions.

(a)

Certificate of occupancy required and exemptions. No certificate of occupancy shall be issued for any structure which does not comply with these requirements; however, structures already in use are exempted; provided that:

(1)

Such structure at the time of its erection complied with the provisions of all applicable ordinances of James City County;

(2)

Exempted buildings remain in continuous use and at no time remain vacant or unused for a continuous period of one year; and

(3)

No parking lot for any exempted property is enlarged or materially altered. If such a parking lot is to be enlarged or materially altered, the existing parking area as well as the new parking area shall be brought into conformance with this chapter; provided, however, the planning director may waive the setbacks and geometric design requirements found in sections 24-57 as they apply to existing parking areas, upon finding that the costs of complying with these standards would impose a severe hardship or that insufficient area exists to allow such revision.

For purposes of this section, "enlarged or materially altered" shall mean expansion or change in the parking lot which either increases the number of parking spaces by more than 15 percent or reduces the landscaped areas of the parking lot by more than 15 percent. Nothing in this section is intended to prohibit paving or surfacing of parking lots, the installation of curbs or bumpers, or other improvements which do not affect the number of spaces or the areas of the site dedicated to landscaped open space.

(b)

Location of off-street parking.

(1)

Required off-street parking spaces shall be located on the same lot as the structure or use to which they are accessory or on a lot adjacent thereto which has the same zoning classification or a zoning classification that would allow the use that the parking will serve. The rights of use of any such adjacent property shall be secured by ownership, easement or similar recorded covenant or agreement approved as to form and content by the county attorney, in order to assure the permanent availability of such parking.

(2)

Off-site parking spaces shall be permitted by the planning director which are not located on the same property or use they serve, provided they meet the criteria specified in this section. All such parking shall be easily and safely accessible to pedestrians. The rights of use of any such property and pedestrian walkways shall be provided for by ownership, easement or similar recorded covenant or agreement, approved as to form and content by the county attorney, in order to assure the permanent availability of such parking.

(3)

Incentive to reduce visibility of off-street parking. Applicants of a development proposal that:

a.

provides off-street parking to the side or rear of the site only;

b.

provides parking that is screened by landscaping or a building;

c.

is located along an urban/suburban community character corridor as designated on the James City County Community Character Corridors Type Designation and Buffer Treatment Map; and

d.

complements the design standards of the corridor or area to the satisfaction of the planning director;

may request the planning director to grant one of the following incentives:

a.

front building setback reduction;

b.

front landscape area width reduction; or

c.

minimum parking lot landscaping requirement reduction.

In no case shall a reduction be greater than 20 percent of the ordinance requirement.

(c)

Types of vehicles permitted in parking spaces. Off-street parking spaces shall be used solely for the parking of vehicles in operating condition by patrons, occupants or employees of the use to which such parking is accessory. Permanent storage of vehicles shall not be allowed. Storage of vehicles for sale shall not be allowed.

(d)

Parking of vehicles for sale/rent permitted and prohibited.

(1)

The following provisions shall apply to the parking or placement of automobiles, trucks, trailers, recreational vehicles, motorcycles, boats (a boat displayed for sale with a trailer shall be construed as a single vehicle), tractors, heavy construction equipment or other types of motorized vehicles or equipment with the intent to offer such vehicles or equipment for sale or rent. For the purposes of this section, the presence of signs, lettering, papers, flyers or other visible advertisement or information on or within the vehicle or the use of internet or print media indicating it to be for sale or rent shall be deemed evidence of such intent.

(2)

The owner or occupant of a parcel on which an occupied residential, commercial or industrial structure is located may park a legally inspected and tagged automobile, light-duty truck, recreational vehicle or trailer, boat or cargo trailer on the property for the purpose of selling or offering the vehicle for rent, provided that:

a.

The vehicle is owned by the owner or occupant of the property, or a member of the owner/occupant's immediate family living on the property. For the purposes of this section, the term "immediate family" shall be deemed to include spouse, natural or legally defined offspring or parents or grandparents of the owner or occupant of the premises. The owner must produce proof of ownership in the form of title or current registration if requested by inspection staff.

b.

The vehicle is parked on a cleared area on the property, and shall not be parked on forested or landscaped portions of the property.

c.

Any signs or lettering advertising the vehicle to be for sale or rent shall be attached to or applied to the vehicle and shall not exceed six square feet in area.

d.

Not more than two vehicles shall be parked or displayed for sale or rent at any time and not more than five vehicles may be parked or displayed for sale or rent on any property within the same calendar year.

e.

In the event the commercial or industrial use occupying the property is authorized to include the on-premises parking or storage of heavy construction equipment, large trucks, and similar vehicles/equipment, the above-noted limitation to "light-duty trucks" shall be waived.

f.

Parking of vehicles or equipment for sale or rent on undeveloped or vacant property, or on property on which the principal structure(s) are unoccupied, shall be prohibited.

(3)

Violations of the terms of this section shall be enforceable against the owner of the property and/or the owner of the vehicle.

(4)

The provisions of this section shall not be deemed to prohibit the sale or rental of vehicles or equipment when conducted from a site which has been authorized, pursuant to the terms of this chapter, for the conduct of vehicle or equipment sales/rental as a principal use of the property.

(5)

Violation of any of these terms may result in court action in accordance with section 24-22 in addition to having the vehicle towed from the property at the owner's expense.

(6)

The provisions of this section are not intended to prevent temporary parking related to day-to-day use and operation of the vehicle (i.e. shopping, normal road use) and should not be construed as such.

(e)

Appeals. In the event the planning director disapproves plans of this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-240, 5-12-09; Ord. No. 31A-254, 11-22-11)

Sec. 24-56. - Handicap parking.

Parking spaces for the handicapped and any necessary curb cuts, ramps and accessible routes to the proposed use shall be provided in and from parking areas in conformance with the regulations issued by the U.S. Department of Justice pursuant to the Americans with Disabilities Act (ADA) (See 28 CFR Part 36, Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities).

(a)

Dimensions. The required dimensions for parking spaces and aisles shall be in conformance with those provided in the following table.

Type of Handicap Space	Required Space Dimensions	Required Width of Adjacent Aisle (Aisle shall be clearly marked)	Minimum Number of Spaces Required
Standard	9' x 18'	5-feet	Refer to Sec. 24-56 (d)
Van Accessible	9' x 18'	8-feet	1 in every 8 required handicap accessible spaces shall be van-accessible, but not less than one (1).
Dimensions for Handicap Parking			

No more than two spaces may share an aisle. Each aisle shall be headed by a curb cut or ramp, with a detectable warning, to allow unimpeded access to the use.

(b)

Signage.

(1)

Each space shall be headed with a sign clearly marking the space as handicapped (with the international symbol of accessibility). Such signs shall not exceed 1.5 square feet in area and shall be positioned so that the bottom edge of the sign is no less than four feet above grade and no more than seven feet above grade.

(2)

All signs shall include the following language: "Penalty, \$100-\$500 Fine, TOW-AWAY ZONE." Such language may be placed on a separate sign and attached below existing above grade disabled parking signs, provided that the bottom edge of the attached sign is no lower than four feet above the parking surface.

(c)

Location. Location of handicapped spots shall be determined as follows. Such spaces shall generally be closest to the entrance to the building or use for which they are provided. The spaces shall be connected to the use by a paved walk with a grade not to exceed 1:20, no less than five feet wide, with curb cuts, ramps and detectable warnings where necessary, which shall allow unimpeded access to the use. When a ramp is required to provide an accessible route, it shall be constructed in conformance with ADA regulations.

(d)

Number of handicap spaces required. The number of handicapped parking spaces shall be determined by the following chart:

1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1,000	2 percent of total
1,001 and over	20 plus 1 for each 100 over 1,000

Total Off-Street Parking Required	Handicap Spaces Required
-----------------------------------	--------------------------

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99)

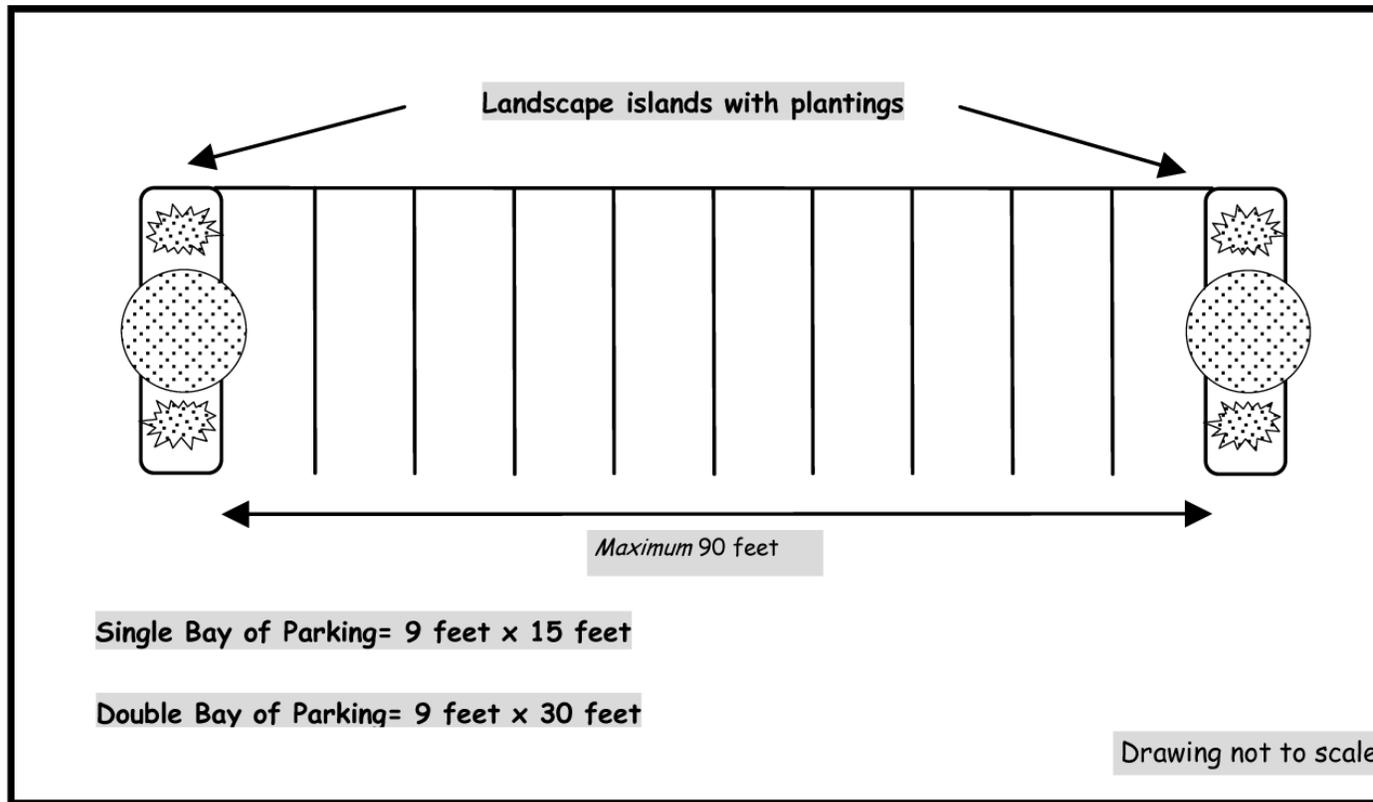
Sec. 24-57. - Parking lot design.

Parking areas shall be arranged for functional efficiency and safety for both vehicles and pedestrians and shall be designed to be amenable to surrounding property. Parking areas, accessory or otherwise, shall comply with the following:

(a)

Dimensions of parking bays and required islands. The parking lot shall be constructed so that spaces are grouped into bays. At the end of each bay, a landscape island of at least nine feet in width and 15 feet in length shall be built to separate the bays from each other or from traffic lanes. When the parking bays contain double rows of parking spaces, the landscape island shall be increased to nine feet in width and 30 feet in length. A parking bay may not be constructed to a length of more than 90 feet without constructing a landscape island. The planning director may approve islands which vary from nine-foot by 15-foot or nine-foot by 30-foot rectangles in order to provide desirable geometric design features such as rounded corners and angles to facilitate maneuvering of automobile traffic. However, in no case shall the total area of an island be decreased as a result of such design change.

*Figure 1-Parking Bays and Landscape Islands Dimensions*



(b)

Protection of landscape areas and location of parking areas and drive aisles. All landscape areas contiguous to parking bays shall be protected from intrusion by vehicles through installation of curbs or bumpers. Parking areas shall not be located within five feet of any building. Driveways shall not be located within five feet of any building except where vehicular access is necessary. The above-mentioned five-foot setback for parking areas and drives shall not be required for vehicle parking areas and drives (including those serving the parking area) located underneath a building or within a parking garage.

(c)

Connections to adjacent parcels. Commercial development designated as community commercial or neighborhood commercial on the Comprehensive Plan shall connect to similarly designated adjoining parcel(s) via a stub-out to the property line(s) with the objective of providing internal vehicular and pedestrian access between neighboring commercial parcels. The planning director may waive the connection requirement upon finding that such connection is found to be impractical or is opposed in writing by the adjacent property owner.

(d)

Geometric standards.

(1)

The design of the parking lot shall meet the minimum geometric standards presented in the following table:

Angle of Parking (Degrees)	Direction of Traffic	Dimension of Stall (in feet)	Width of Aisle (in feet)
Parallel	One-Way	8 x 22	12
30	One-Way	9 x 18	14
45	One-Way	9 x 18	14
60	One-Way	9 x 18	18
90	Two-Way	9 x 18	24
Minimum Off-Street Parking Area Dimensions			

(2)

Other parking angle and aisle dimensions other than those listed in the chart contained in (d) (1) above may be permitted by the planning director or his designee upon finding that they conform to commonly accepted engineer design standards and do not compromise the safety, appearance, or function of the parking area. In no case shall the stall dimensions for angle parking be less than nine feet by 18 feet.

(3)

The minimum aisle dimension of any parking lot designed to accommodate at least 500 vehicles and intended for long-term parking may be reduced by four feet, provided the lot is designed and marked for one-way traffic, the parking spaces form an angle of 80 degrees to 90 degrees with the aisle, each vehicle is individually guided to a parking space by an attendant, and the safety and effective operation of the lot has been clearly demonstrated.

For the purpose of this section, the phrase "long-term parking" shall mean parking the duration of which is on the average six hours or more.

(e)

Surface and drainage of parking areas. Parking areas, driveways and entrances shall be surfaced with gravel, stone, asphalt or concrete and shall be maintained in good repair. Adequate drainage shall be provided in all parking areas for the removal of stormwater and a drainage plan shall be submitted with the site plan and approved by the environmental director.

The use of grass pavers may be permitted in low-traffic areas (i.e. overflow parking for churches, special events, etc.) upon approval from the planning director, where it can be demonstrated that the vegetation will survive the amount of expected traffic.

(f)

Entrances to parking areas from public or private roads. The location, size, and number of entrances from parking areas onto public or private roads shall be shown on the site plan. Upon finding that on-site traffic circulation, offsite traffic flow or public safety would be impaired or improved, the planning commission may require the location, number, and/or size of proposed entrances to be modified, limited, or increased.

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-254, 11-22-11)

Sec. 24-58. - Special provisions for bus parking.

If provided, bus parking areas shall be arranged for functional efficiency and convenience and shall be designed to be amenable to surrounding property. Bus parking areas, accessory or otherwise, are exempted from the requirements of section 24-57, but shall comply with the requirements of section 24-55 (a) and with the following:

(a)

Site plan required. Site plans, in accordance with article III of this chapter, shall be submitted for all new off-street parking areas for buses or for any additions to existing off-street parking areas for buses.

(b)

Signs for bus parking only. Parking areas to be used for bus parking shall be used for bus parking only. Signs shall be erected within the parking lot indicating those areas designated for bus parking only.

(c)

Location. No parking area for buses shall be located closer than 30 feet to adjacent residential uses, hotels, motels, hospitals or institutes of human care and occupancy. Upon finding that due to enhanced landscaping, the use of berms, or other site characteristics and/or improvements the bus parking area is sufficiently screened from the uses listed above, the planning director may reduce this buffer/setback requirement to a minimum of 20 feet.

(d)

Dimensions. The design of the bus parking lot shall meet the minimum geometric standards presented in the following table.

Type	Dimension of Stall	Minimum Width of Aisle(s)

	(in feet)	(in feet)
Perpendicular or Angled Parking	12 x 40	24
Parallel Parking	12 x 50	24
Minimum Off-Street Bus Parking Dimensions		

The width of aisles within bus parking lots shall be determined by the turning radii necessary to safely maneuver into and out of the parking spaces, however, shall in no case be less than 24 feet wide.

(e)

Entrances to parking areas. The location, size and number of entrances from parking areas onto public or private roads shall be shown on the site plan. Upon finding that on-site traffic circulation, offsite traffic flow or public safety would be impaired or improved, the planning commission may require the location, number, and/or size of proposed entrances to be modified, limited, or increased.

(f)

Surface and drainage of parking areas. Bus parking areas shall be surfaced with gravel, stone, asphalt or concrete and shall be maintained in good repair. Adequate drainage shall be provided for the removal of stormwater and a drainage plan shall be submitted with the site plan and approved by the director of engineering and resource protection.

(g)

Adequate lighting shall be provided in accordance with section 24-57 (c).

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-291, 8-13-13)

Sec. 24-59. - Minimum off-street parking requirements.

(a)

Residential uses.

(1)

Minimum number of resident parking spaces. The minimum number of off-street parking spaces required for residential uses is provided in the following table.

--	--

Single-Family Unit	2
Single-Family Unit with an accessory apartment	3
Townhouse Unit	2.5
1-Bedroom Apartment	1.5
2 or more Bedroom Apartment	2.2
Manufactured Home	2
Other Residential Units	1.5
Type of Residential Unit	Minimum Number of Spaces Required

Spaces in garages shall be counted towards the required minimum number of parking spaces for each dwelling. The parking space within the garage shall be large enough to provide an adequate parking space for a full size automobile and necessary space for ingress and egress out of the vehicle as determined by the zoning administrator. Building plans shall be submitted that demonstrate the adequacy of the garage(s) for accommodating parking, adequate ingress and egress out of the vehicle, and interior access to the residential unit.

(b)

Commercial uses. Commercial and institutional uses shall be divided into various categories according to the parking demand which they generate, as follows:

Category A—High demand. High parking demand generators shall provide a minimum of one parking space per 200 square feet of retail and/or office floor area but not more than 120 percent of the minimum requirement, to include:

- Convenience stores.
- Dance Halls/Clubs.
- Drug stores.
- Libraries.
- Liquor stores.
- Lodges, civic clubs, fraternal organizations, service clubs, and private clubs.
- Post offices.
- Retail food stores, bakeries and fish markets.
- Truck stops.

Category B—Moderate demand. Moderate parking demand generators shall provide a minimum of one parking space per 250 square feet of retail and/or office floor area but not more than 120 percent of the minimum requirement, to include:

- Arcades.
- All other commercial uses not specified in Category A or C.
- Automobile and trailer sales and service.
- Banks and other financial institutions.
- Billiard parlors and pool rooms.
- Business, governmental and professional offices.
- Laundries and dry cleaners.
- Lumber and building supply.
- Machinery sales and service.
- Photography, artist and sculptor stores and studios.
- Plumbing and electrical supply.
- Retail and service stores, including the following stores: appliances, books, cabinets, cameras, candy, carpet, coin, department, dressmaking, electronics, florist, furniture, furrier, garden supply, gift, greeting cards, handicrafts, hardware, home appliance, health and beauty aids, ice cream, jewelry, locksmith, music, office supply, optical goods, paint, pet, photography, picture framing, plant supply, secretarial services, shoes, sporting goods, stamps, tailor, tobacco and pipes, toys, travel agencies, upholstery, variety, wearing apparel, and yard goods.
- Retail stores, general.
- Tire, transmission, glass, body and fender, and other automotive product sales and service.

Category C—Uses with unique requirements. Category C uses shall provide minimum parking as stated below but not more than 120 percent of the minimum requirement:

(1)

Bowling alleys. Three spaces per alley plus one space for every 200 square feet of accessory business use.

(2)

Barber shops and beauty parlors. At least three spaces plus two spaces for every barber or beautician chair.

(3)

Furniture and carpet stores and/or show rooms. One space for every 400 square feet of retail floor area.

(4)

Hospitals. Two parking spaces for every bed.

(5)

Indoor vehicular sales show rooms. One space for every 400 square feet of retail floor area.

(6)

Medical office/clinic (reference (18) below for Veterinary Hospitals). Seven spaces per practitioner, or one space per 250 square feet, whichever is greater.

(7)

Mini-storage warehouses. One space per 100 units, plus two spaces per on-site caretaker residence.

(8)

Mortuaries and funeral homes. The applicant shall provide a rationale justifying the number of parking spaces provided. The rationale should cite commonly accepted industry standards, provide information on peak parking demands, shared parking opportunities, hours of operation, and other variables which would influence the number of parking spaces provided on-site. The planning director shall review and approve the number of parking spaces provided prior to final site plan approval.

(9)

Motels, hotels, and tourist homes. One space per rental unit plus four parking spaces for every 50 rental units plus one space per five persons to the maximum capacity of each public meeting and/or banquet room. Accessory uses (restaurants, bars, etc.) shall provide the number of parking spaces required for those uses individually.

(10)

Nursing homes. One space for every four residents, plus one parking space for each employee on the largest shift.

(11)

Outdoor retail sales/display areas. At least one space per 500 square feet of area.

(12)

Outlet malls. Five spaces per 1,000 square feet of retail floor area. For the purposes of this provision, an "outlet mall" shall be defined as four or more stores which (1) are physically connected or are otherwise arranged in an integrated manner, (2) share a common parking area, and (3) the majority of the individual stores primarily sell the goods of a single manufacturer or sell returned, discontinued, overstock, and/or similar goods..

(13)

Planned shopping centers, excluding outlet malls, with four or more stores using a common parking lot, shall provide parking spaces according to the following schedule:

Total Retail Floor Area per 1,000 square feet	Number of Spaces per 1,000 square feet
1 to 300,000	4
Over 300,000	4.5

Where a theater or other place of public assembly is proposed in conjunction with any shopping center which contains at least 60,000-square feet of retail floor area, the number of parking spaces required for the theater may be reduced by 25 percent of what would have been required under subsection (17) below.

(14)

Recreation facilities. For recreation facilities not listed herein, the applicant shall provide a rationale justifying the number of parking spaces provided. The rationale should cite commonly accepted national park and recreation standards, provide information on peak parking demands, shared parking opportunities, hours of operation, and other variables which would influence the number of parking spaces provided on-site. The planning director shall review and approve the number of parking spaces provided prior to final site plan approval.

(15)

Rental of rooms. Rental of rooms to a maximum of three rooms shall provide off-street parking totaling one more parking space than the total number of rooms to be rented.

(16)

Restaurants. One space for every four seats based upon the maximum seating capacity allowed.

(17)

Places of public assembly including houses of worship and public meeting halls. One parking space per five seats based upon the planned seating capacity. For uses with bench seating, each 24 inches of bench shall be counted as one seat. In calculating the number of seats, all resulting fractions shall be rounded up to the nearest whole number.

(18)

Veterinary hospitals. Three spaces per examination or treatment room, plus one space per employee on the largest shift.

(c)

Industrial uses. Industries, warehouses and wholesale establishments not selling directly to the public shall provide a minimum of one parking space per two employees on the largest shift.

(d)

All other uses—planning director determination. Where the required number of parking spaces is not set forth for a particular use in the preceding subsections, where the applicant is uncertain as to final use or size of the structure or where there is no similar general type of use listed, the planning director shall determine the number of spaces to be provided.

(e)

Shared parking. Shared use of required parking spaces may be permitted where two or more uses on the same or separate sites are able to share the same parking spaces because their parking demands occur at different times. The location of such shared parking area(s) shall also be in compliance with section 24-55 (b). Shared use of required nonresidential parking spaces is allowed if the following documentation is submitted in writing to the planning director as part of the site plan review:

(1)

The names and addresses of the uses and of the owners or tenants that are sharing the parking;

(2)

The location and number of parking spaces that are being shared;

(3)

An analysis showing that the peak parking times of the uses occur at different times and that the parking area will be large enough for the anticipated demands of both uses; and

(4)

A legal instrument such as an easement or deed restriction that guarantees access to the parking for both uses and perpetual maintenance of the shared parking facilities. The rights of use of any such lots and pedestrian walkways shall be provided for by ownership, easement or similar recorded covenant or agreement, approved as to form and content by the county attorney, in order to assure the permanent availability of such parking.

(f)

Mass or alternate transportation plans.

(1)

The minimum number of required parking spaces may be reduced upon the approval of a mass transportation or alternate transportation plan, which details arrangements for the mass or alternate transit of potential visitors to the site, including residents, employees, and customers. The plan shall also demonstrate that facilities exist or will be provided to accommodate the safe loading and unloading of mass transit passengers. A facility which provides a safe and comfortable waiting area for passengers shall also be provided.

Such plans shall be subject to the review and approval of the planning director and transit manager prior to the reduction of the number of required parking spaces.

(2)

Each lot for which the minimum number of parking spaces has been reduced shall show a reserve area sufficient in size to accommodate the number of parking spaces which were not required to be constructed.

(3)

Every approved mass transportation or alternate transportation plan shall be reviewed by the planning director and transit manager every two years. The purpose of the review is to ascertain whether the plan has the effect of significantly reducing the automobile traffic to and from the site, and whether the reduced number of parking spaces is sufficient to accommodate the automobile traffic to the site. The planning director and the transit manager shall make a determination to this effect.

(4)

In the event that the planning director and transit manager determine that an approved mass transportation plan or alternate transportation plan has not had the effect of significantly reducing automobile traffic to a site, and that the reduced number of parking spaces is not sufficient to accommodate the automobile traffic to a site, the owner shall construct the number of parking spaces necessary to meet the minimum required under this ordinance.

(g)

Parking Garages. The maximum parking requirement shall not be applicable for establishments utilizing parking garages.

(h)

Appeals and waivers:

(1)

Appeals. A property owner may appeal for a change of a commercial use from Category A to Category B or a less restrictive requirement; however, the burden of proof shall be upon the applicant to show that the particular activity will not reasonably generate parking demand sufficient to justify the parking requirement of its present classification. Appeals for changes to parking classifications shall be made to the planning director.

(2)

Waivers. A property owner may be granted a waiver by the planning director from the 120 percent maximum parking cap if it can be shown that due to unique circumstances a particular activity would be expected to generate more parking demand than that allowed by the maximum parking cap. The planning director shall make a determination if the requested additional parking is necessary. The applicant shall demonstrate efforts toward utilizing a shared parking agreement or implementing a parking management plan to meet demand. The planning director may place conditions upon the granting of a waiver and may require that the parking area be landscaped in addition to the minimum landscaping requirements. In the event the planning director disapproves plans applicable to this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.

(Ord. No. 31A-88, § 20-12, 4-8-85; Ord. No. 31A-89, 9-9-85; Ord. No. 31A-105, 2-22-88; Ord. No. 31A-110, 9-12-88; Ord. No. 31A-112, 2-6-89; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-132, 10-14-91; Ord. No. 31A-151, 5-3-93; Ord. No. 31A-157, 11-21-94; Ord. No. 31A-163, 7-3-95; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-238, 5-12-09; Ord. No. 31A-254, 11-22-11)

Sec. 24-60. - Bicycle parking facilities.

Bicycle parking facilities shall be provided for all retail and office development 20,000 square feet in floor area and above. The facilities shall be permanently affixed to the ground and shall be provided in accordance with the following schedule:

Building Square Footage	Number of Facilities and Parking Spaces
20,000 to 50,000	1 facility with a minimum of five (5) parking spaces.
50,001 to 200,000	2 facilities with a minimum of five (5) parking spaces per facility.
200,001 or more	3 facilities with a minimum of five (5) parking spaces per facility.
Required Bicycle Parking	

(Ord. No. 31A-199, 7-13-99)

Sec. 24-61. - Off-street loading requirements.

On the same premises with every building, structure or part thereof erected and occupied for manufacturing, storage, warehouse, goods display, department store, wholesale store, market, hotel, hospital, mortuary, laundry, dry cleaning or other uses similarly involving the receipt or distribution of vehicles, materials or merchandise, there shall be provided and maintained on the lot adequate space for standing, turning, loading and unloading services. In no case shall the required off-street loading space be part of the area used to satisfy the off-street parking requirement, nor shall the space for loading and unloading of vehicles be so located that a vehicle using such loading space projects into any public or private street or alley or driving aisle required for circulation within a parking lot.

Such loading and unloading space shall:

(1)

Be an area ten feet by 50 feet, with 15-foot height clearance; and

(2)

Be provided according to the following schedule:

Gross Floor Area in Square	Loading and Unloading Spaces Required in terms of square feet of gross

Feet	floor area (GFA)
5,001 to 30,000	1 space
30,001 to 150,000	1 space plus 1 space for each 30,000 square feet
150,001 to 750,000	5 spaces plus 1 space for each 60,000 square feet in excess of 150,000 square feet
Over 750,000	15 spaces plus 1 space for each 120,000 square feet
Off-Street Loading—Minimum Space Requirements	

For the above uses, with gross floor areas of 2,000 to 5,000 square feet, one loading and unloading space measuring ten feet by 30 feet, with 15-foot height clearance, shall be provided.

(Ord. No. 31A-88, § 20-12.1, 4-8-85; Ord. No. 31A-199, 7-13-99)

Sec. 24-62. - Special provisions for private streets.

(a)

Approval process.

(1)

Generally. Private streets may be permitted for the uses listed in Table 1 below upon approval of the board of supervisors unless otherwise specified and shall be coordinated with existing or planned streets of approved master plans and the Comprehensive Plan. Such approval shall be requested in writing.

Table 1: Zoning districts and uses where private streets may be permitted

Zoning District	A-1, General Agriculture	X	✓	X	X	X
	R-1, Limited Residential	X	X	X	X	X
	R-1, with cluster overlay	X	X	X	X	X
	R-2, General Residential	X	X	X	X	X

		R-2 with cluster overlay	X	X	X	✓	X		
		R-3, Residential Redevelopment	X	X	✓	✓	✓		
		R-4, Residential Planned Community	✓	✓	✓	✓	✓		
		R-5, Multi-Family Residential	X	X	B	B	B		
		R-6, Low Density Residential	X	X	X	X	X		
		R-8, Rural Residential	X	✓	X	X	X		
		LB, Limited Business	X	X	X	X	X		
		B-1, General Business	X	X	X	X	X		
		M-1, Limited Business/Industrial	✓	X	X	X	X		
		RT, Research & Technology	✓	X	X	X	X		
		M-2, General Industrial	✓	X	X	X	X		
		PUD, Planned Unit Development	✓	✓	✓	✓	✓		
		MU, Mixed Use	✓	✓	✓	✓			
		PL, Public Land	X	X	X	X	X		
		EO, Economic Opportunity	✓	✓	✓	✓			
Use	Qualified Industrial Park per Sec. 24-62(a)(2)	Manufactured Home Park per Sec. 24-181	Single-Family Residential	Multi-Family Residential	All uses permitted in zoning district				

✓ : permitted with board approval X: not permitted B: By-right

(2)

## Qualifying Industrial Parks

a.

A "qualifying industrial park" shall be defined as an industrial and/or business park that has an actual or planned size of at least 1,000,000 square feet. The "Qualifying Industrial Park Square Footage Adjustments" shall be applied, to determine the qualifying industrial park square footage in order to determine whether the qualifying threshold can or would be reached. Qualifying square footage is computed by multiplying the existing or planned total square footage by the square footage credit listed in the following chart.

Use	Square Footage Credit
Existing industrial/office/warehouse development	1
Other permitted development	0.75
Planned industrial/office/warehouse development	0.75
Other permitted development	0.5
Qualifying Industrial Park Square Footage Adjustments	

The planned development adjustments listed above shall be applied to undeveloped property zoned Mixed-Use, MU; Limited Business/Industrial District, M-1; General Industrial District, M-2; Research and Technology District, RT; and Planned Unit Development, PUD and allows nonindustrial/office and/or nonwarehouse activity to occur based on master plan projections which have been approved by the board of supervisors. For undeveloped property not subject to a binding master plan the square footage shall be determined by multiplying 0.75 by 25 percent of the net-developable area of the project.

If an industrial/office/warehouse development is proffered exclusively, the existing development adjustments listed above may be applied upon examination of the proffers.

b.

Requests for board approval of private streets in qualifying industrial parks shall include a traffic impact analysis and square footage estimates for the proposed industrial park. The traffic impact analysis shall be in conformance with the submittal requirements of section 24-23. Additionally, the traffic impact analysis shall address internal circulation and capacity.

(3)

Guarantees. The construction of streets whether public or private shall be guaranteed by surety, in an amount and in a form approved by the county attorney.

(4)

To the extent streets are private rather than public, the applicant shall also submit assurances satisfactory to the county attorney that a property owner's community association or similar organization has been legally established under which the lots within the area of the final development plan will be assessed for the cost of maintaining private streets and that such assessments shall constitute a pro rata lien upon the individual lots shown on the development plan.

(b)

Minimum Standards:

(1)

Private streets shown on the development plan shall meet the construction and geometric requirements of the Virginia Department of Transportation and the Administrative Guidelines for Certifications of Private Street Construction, except as specified in paragraph (2) below.

(2)

If the uniqueness of a proposal requires that the specifications for the width, surfacing, construction and geometric design of streets, alleys, ways for public utilities, with associated drainage and specifications for curbs and gutters be subject to modification from the specifications established in chapter 19, the development manager or his designee, within the limits hereinafter specified, may waive or modify the specifications otherwise applicable for a particular private road (or road network) if the specifications are not required in the interests of the residents, occupants, workers, customers of businesses and property owners of the development and that the modifications of such specifications are not inconsistent with the interests of the entire county.

It shall be the responsibility of the applicant to demonstrate to the satisfaction of the development manager or his designee with respect to any requested waiver or modification that:

a.

The waiver or modification shall result in design and construction that is in accordance with accepted engineering standards;

b.

The waiver or modification is reasonable because of the uniqueness of the development or because of the development within which the nature and excellence of design and construction will be coordinated, preplanned and controlled;

c.

Any waiver or modification pertaining to streets is reasonable with respect to the generation of vehicular traffic that is estimated to occur within the area of the development;

d.

Traffic lanes of streets are sufficiently wide enough to carry the anticipated volume and speed of traffic and in no case be less than ten feet wide; and

e.

Waivers or modifications as to base and surface construction of streets and as to the condition of ditches or drainage ways be based upon the soil tests for California Bearing Ratio value and erosion characteristics of the particular subgrade support soils in the area.

The applicant may appeal the decision of the development manager or his designee to the development review committee (DRC).

(Ord. No. 31A-150, 4-5-93; Ord. No. 31A-199, 7-13-99; Ord. No. 31A-255, 11-22-11; Ord. No. 31A-283, 12-11-12)

**ITEM SUMMARY**

DATE: 4/14/2016  
TO: The Policy Committee  
FROM: Roberta Sulouff, Planner; Jose Ribeiro, Senior Planner II  
SUBJECT: Proposed Zoning Ordinance Revisions to DRC Triggers

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**ATTACHMENTS:**

	Description	Type
▣	staff report	Staff Report
▣	Current Code: Section 24-147, Section 24-148, and Section 24-149	Backup Material
▣	Current Code: Section 19-23 of the Subdivision Ordinance	Backup Material
▣	Draft Zoning Ordinance: Site Plan Option A	Backup Material
▣	Draft Zoning Ordinance: Site Plan Option B	Backup Material
▣	Draft Subdivision Ordinance: Subdivision Option A	Backup Material
▣	Draft Subdivision Ordinance: Subdivision Option B	Backup Material

**REVIEWERS:**

Department	Reviewer	Action	Date
Policy	Rosario, Tammy	Approved	4/8/2016 - 9:44 AM
Policy	Holt, Paul	Approved	4/8/2016 - 10:05 AM
Publication Management	Burcham, Nan	Approved	4/8/2016 - 10:08 AM
Policy Secretary	Secretary, Policy	Approved	4/8/2016 - 11:52 AM

## MEMORANDUM

DATE: April 14, 2016

TO: The Policy Committee

FROM: Roberta Sulouff, Planner  
Jose Ribeiro, Senior Planner II

SUBJECT: Zoning Ordinance Revisions to Development Review Committee Triggers

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### **Background**

Over the past several years, much work has been done to ensure a more predictable and flexible plan review process. Staff has worked to incorporate recommendations from the Business Climate Task Force, both through small process changes and through the most recent comprehensive Zoning Ordinance update in 2012. As a result of these changes, the Development Review Triggers (DRC) has become more of a strategic body; beyond master plan consistency and other proffered and conditioned reviews, the DRC now primarily serves as an appellate body. The DRC also dedicates significant time to reviewing conceptual plans for prospective legislative applications, in an effort to identify issues that could otherwise result in deferrals and costly design changes later in the review process.

Given these shifts in purpose, and with additional direction from the Comprehensive Plan, staff proposed revisiting Zoning and Subdivision Ordinance DRC review triggers at the October 2015 Policy Committee meeting. Subsequently, the Policy Committee identified this issue as a policy priority for the upcoming year. At that meeting, staff and committee members discussed the DRC's role in reviewing site plans and major subdivisions. Staff notes that some concern was expressed regarding the implications of completely removing DRC review requirements found in Sections 24.147-149 of the Zoning Ordinance and Section 19.23 of the Subdivision Ordinance.

In response to that discussion, and acknowledging that this particular issue is perhaps more straightforward than several other work plan items, staff has drafted two options for ordinance revisions for review at this meeting. At this stage, staff will gather feedback on the two options provided. Any suggested edits will be incorporated into the drafts before bringing the amendments to the Planning Commission and Board of Supervisors for adoption.

### **Current Ordinance Requirements**

1. *Site Plan Review*: Per Section 24-147, Site Plan-Criteria for review, current code requires DRC review for any plans which propose the following: a non-master planned multi-family development of 10 or more units, a shopping center or a single building or complex exceeding 30,000 square feet (excluding certain industrial uses). The code also provides for DRC review should there be any unresolved conflicts about any site plan "between the applicant, adjacent property owners and/or any departmental reviewing agency... which have material impact on the proposed development's off-site impacts and/or density."

Additionally, Section 24-148(d) states that, prior to a site plan application, the applicant may submit an enhanced conceptual plan for DRC review. The codes states several requirements for the composition of an enhanced conceptual plan, however code does require a traditional, fully engineered plan at this stage. The DRC can recommend, and the Planning Commission may grant, preliminary approval to the enhanced conceptual plan, in which case the plan would then proceed through the review process as an administrative site plan review.

2. *Subdivision Review*: Per Section 19-23 of the Subdivision Ordinance, procedure for preliminary plan review for major subdivisions, current code requires DRC review for any major subdivision. This requirement applies regardless of any previous legislative master plan approval. Currently, the Planning Director may waive this requirement for any subdivision proposing fewer than 50 lots. In practice, DRC review of subdivisions under 50 lots is very rare, unless otherwise required by proffer or Special Use Permit conditions. The Subdivision Ordinance also allows for enhanced conceptual plan review, in much the same manner as allowed for site plans.

### **Revision Options**

Pursuant to concerns raised at the October 2015 Policy Committee meeting, staff has prepared two draft ordinance amendment options for both the site plan and subdivision review processes. In each, “Option A” removes DRC review completely and “Option B” replaces the current process with a mandatory enhanced conceptual plan review. While Subdivision Ordinance amendment Option A would no longer require review by the DRC, any major subdivision of 50 or more lots would still need to gain preliminary approval via the Planning Commission per the Code of Virginia. In this scenario, staff would prepare a report for the Planning Commission to review as a “Consideration Item” on its agenda.

While staff acknowledges that Option A would, in both scenarios, present a more streamlined amendment, staff also recognizes the value of the enhanced conceptual review. These reviews present lower cost, low-risk opportunities for applicants to garner feedback and navigate through the system. In either case, staff believes that the proposed changes further accomplish the goals set during earlier ordinance revisions and continue the trend of making the plan review process more efficient and predictable, without compromising any review integrity.

### **Recommendation**

Staff recommends that the Policy Committee recommend approval of some combination of the attached draft amendments to the Planning Commission for consideration at its June 1, 2016 meeting.

RS/JR/ab

ZORevDRC-mem

### **Attachments:**

1. Section 24-147 (Site Plan-Criteria for review), Section 24-148 (Site Plan-Procedure for Commission review of site plans) and Section 24-149 (Site Plan-Procedure for review of site plans by the Commission’s designee(s)).
2. Section 19-23 of the Subdivision Ordinance (Procedure for preliminary plan review for major subdivisions)
3. Draft Zoning Ordinance Amendment-Site Plan Option A
4. Draft Zoning Ordinance Amendment-Site Plane Option B
5. Draft Subdivision Ordinance Amendment-Subdivision Option A

Sec. 24-147. - Criteria for review.

- (a) Upon application and review, the development review committee (DRC) and the commission, or the commission's designee(s), shall consider site plans if any of the following conditions are present:
  - (1) The site plan proposes:
    - a. a multifamily development of ten or more units which is not subject to a binding legislatively approved master plan; or
    - b. a shopping center; or
    - c. a single building or group of buildings which contain a total floor area that exceeds 30,000 square feet which are not predominantly to be used as a warehouse, distribution center, office, or for other industrial or manufacturing purpose. The term predominantly shall be defined as 85 percent of the total square feet of the building or more.
  - (2) There are unresolved conflicts between the applicant, adjacent property owners and/or any departmental reviewing agency. Unresolved conflicts shall be defined as disagreements in the interpretation or application of ordinance requirements which have a material impact on the proposed development's off-site impacts and/or density, as determined by the planning director.
- (b) Site plans which meet any of the conditions listed above shall generally be reviewed by the DRC and the commission in accordance with section 24-148. However, the commission's designee may consider and review, pursuant to section 24-149, any site plan which the economic development director determines to create or significantly expand a use which contributes to the achievement of the economic development goals of the Comprehensive Plan.
- (c) If site plans do not qualify for review by the commission or its designees under this section, they may be considered and reviewed administratively by the zoning administrator under the terms of section 24-150.

(Ord. No. 31A-132, 10-14-91; Ord. No. 31A-136, 1-6-92; Ord. No. 31A-157, 11-12-94; Ord. No. 31A-191, 4-13-99; Ord. No. 31A-246, 6-22-10; Ord. No. 31A-260, 1-10-12)

Sec. 24-148. - Procedure for commission review of site plans.

- (a) The applicant shall submit to the planning director, or his designee, ten copies of the site plan and pay the appropriate application fee. Site plans shall first be reviewed by the DRC who shall forward a recommendation to the commission. In order for site plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such site plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.
- (b) Upon meeting all submittal requirements, the site plan shall be reviewed by the planning division and other agencies of the county, state and/or federal governments as deemed necessary by the planning director. The planning division shall prepare a composite report on the proposed site plan which shall include review comments and requirements by other agencies and determine consistency with all applicable zoning ordinance requirements, policies and regulations. The DRC shall consider the composite report and the site plan and make a recommendation to the commission.
- (c) The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the site plan. The site plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall notify the applicant of the commission's findings within ten working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional

information that shall be required to secure preliminary or final approval. If disapproved, the notice shall state the specific reasons for disapproval.

- (d) The applicant may, at their discretion, submit an enhanced conceptual plan for review by the planning division, other agencies of the county, state and/or federal government as deemed necessary by the planning director in advance of preparation of fully engineered plans. The planning division shall prepare a composite report on the proposed plans which shall include review comments and requirements by other agencies and determine consistency with all applicable zoning ordinance requirements, policies and regulations. The composite report and the enhanced conceptual plan shall be considered by the DRC at one of its regularly scheduled monthly meetings to make its recommendation to the commission. The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the plan. The plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall notify the applicant of the commission's findings within ten working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure preliminary or final approval. If disapproved, such notice shall state the specific reasons for disapproval. Plans granted preliminary approval by the commission at the conceptual stage can move forward into full design for further review administratively by the planning division and other agencies as deemed necessary by the planning director. In order for enhanced conceptual plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.
- (e) The enhanced conceptual plan shall at a minimum contain:
  - (1) Project title, title block, legends, north arrow and graphic scale labeled;
  - (2) Vicinity and location maps and site address;
  - (3) Site owner and developer information;
  - (4) County tax parcel number, site boundary and parcel size information;
  - (5) Setbacks (Building, Landscape) and Buffers (RPA, Community Character Corridor);
  - (6) Adjacent property information;
  - (7) Existing site features such as property lines, roads, buildings, driveways, and utilities;
  - (8) Existing topography using county base mapping (five (5) foot contours) or other mapping sources or surveys. Spot elevations shall be shown at topographical low or high points;
  - (9) Existing and proposed rights-of-way and easements;
  - (10) Layout of proposed improvements showing design placement, circulation, parking spaces, handicapped parking spaces, loading spaces, parking islands, recreation areas, and streetlights;
  - (11) Landscape plan identifying general location of plantings and buffer/perimeter screening plantings;
  - (12) Narrative indicating the purpose of the project and compliance with any proffer and master plan requirements;
  - (13) Location and size of existing water mains and proposed connection point(s);
  - (14) Proposed location of water meters, waterlines, and fire hydrants;
  - (15) Proposed building usage and number of floors;
  - (16) Preliminary water demands based on proposed use and required fire flow;

- (17) Fire flow test performed to determine adequate capacity;
- (18) Location of all existing or proposed private wells;
- (19) Location and size of existing sanitary sewer lines and manholes and proposed connection point(s);
- (20) Proposed sanitary sewer, pump or lift stations, and grinder pump(s);
- (21) Verification of sewer flow acceptance;
- (22) Location of primary and secondary onsite disposal system;
- (23) Narrative description of project, including usage and size to determine appropriate ITE code(s) and compliance with Chapter 527 Traffic Impact Analysis Regulations and Access Management Regulations;
- (24) Proposed entrance location(s) and distance to nearest existing intersections, crossovers, and/or adjacent intersections;
- (25) Proposed build out year and phasing information;
- (26) Typical road sections including street widths, curb type, shoulders, sidewalks, bike lanes, planting strips, right-of-way lines, proposed utility locations, centerline curve data;
- (27) Traffic Impact Study for projects that propose 100 or more lots, uses that generate in excess of 100 peak hour trips;
- (28) Proposed design features or elements for which waivers will be sought;
- (29) Project site area, disturbed area, impervious cover and percent impervious estimates;
- (30) Applicable FEMA FIRM panel information and zone designations;
- (31) County watershed, subwatershed and catchment;
- (32) Identify if the site is subject to the county's Special Stormwater Criteria (SSC);
- (33) Overall soils map for the site along with general soil descriptions for each soil mapping unit present on the site, including preliminary locations of highly erodible, hydric, permeable and hydrologic soil groups A and B soils;
- (34) Full environmental inventory consistent with section 23-10(2) of the county's Chesapeake Bay Preservation ordinance containing a perennial stream assessment, delineated wetlands confirmed by applicable federal and/or state agencies, limits of work, a table listing all inventory components, whether they are present on the site and quantified impacts, and offsite work areas, if proposed;
- (35) Demonstration that the project complies with section 23-9(b)(1), (2) and (3) of the county's Chesapeake Bay Preservation ordinance to limit land disturbing, preserve existing vegetation and minimize impervious cover consistent with the proposed land use or permitted development;
- (36) Locations of existing and proposed stormwater management/BMP facilities, with county BMP ID code numbers and labels to show intended BMP type in accordance with designations in the county BMP manual;
- (37) Identify location of areas intended to be dedicated in conservation easement for natural open space, BMP worksheet or stormwater compliance purposes;

- (38) Demonstration that the project complies with the county's 10-point system for water quality and stream channel protection, and minimum standard number 19 of the Virginia Erosion and Sediment Control regulations by provision of a worksheet for BMP point system;
- (39) Demonstration that storm drainage systems and BMP outfalls must outlet into adequate, defined natural or man-made receiving channels;
- (40) Identify preliminary location of primary proposed stormwater drainage system conveyances such as inlets, storm drainage piping, culverts and stormwater conveyance channels for primary systems;
- (41) List of all known federal, state and local permits that are required for the project as well as any exceptions, variances or waivers that must be obtained or pursued.

(Ord. No. 31A-132, 10-14-91; Ord. No. 31A-246, 6-22-10; Ord. No. 31A-267, 6-12-12)

Sec. 24-149. - Procedure for review of site plans by the commission's designee(s).

- (a) The applicant shall submit to the planning director, or his designee, ten copies of the site plan and pay the appropriate application fee.
- (b) Upon meeting all submittal requirements, the site plan shall be reviewed by the planning division and other agencies of the county, state and/or federal governments as deemed necessary by the planning director. The planning division shall prepare a composite report on the proposed site plan which shall include review comments and requirements by other agencies and submit the report to the commission's designees for consideration.
- (c) The commission's designees shall consider the planning division's report and either grant preliminary approval, defer, disapprove or refer the site plan back to the DRC. The site plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall provide written notice to the applicant of the commission's designee's decision. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure preliminary or final approval. If disapproved, the notice shall state the specific reasons for disapproval.

(Ord. No. 31A-136, 1-6-92; Ord. No. 31A-267, 6-12-12)

Sec. 19-23. - Procedure for preliminary plan review for major subdivisions.

- (a) The subdivider shall submit to the agent twelve copies of the preliminary subdivision plan for a major subdivision and pay the appropriate subdivision plan review fee.
- (b) Upon meeting all submittal requirements, the plan shall be reviewed by the agent and other agencies of the county and state as deemed necessary by the agent. The agent shall prepare a composite report on the proposed subdivision to determine if it meets the requirements of this chapter and the zoning ordinance. The report shall include review requirements by other agencies. The preliminary plan and the agent's composite report shall be reviewed by the development review committee (DRC) when it meets to make its recommendation to the commission. In order for subdivision plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.
- (c) The commission shall consider the plan and either grant preliminary approval or disapprove it within 90 days of submittal. The plan may be granted preliminary approval with conditions. The agent shall notify the applicant of the commission's findings in writing within seven days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure final approval of the subdivision. If disapproved, the notice shall state the specific reasons for disapproval. The reasons for denial shall identify deficiencies in the plan which cause the disapproval by reference to specific duly adopted ordinances, regulations or policies, and shall generally identify such modifications or corrections as will permit approval of the plan.
- (d) The subdivider may, at their discretion, submit an enhanced conceptual plan for review by the agent, other agencies of the county and state deemed necessary by the agent and the DRC in advance of preparation of fully engineered plans. The agent shall prepare a composite report on the proposed subdivision to determine its consistency with the requirements of this chapter and the zoning ordinance. The report shall include review comments and requirements by other agencies. The enhanced conceptual plan and the agent's composite report shall be considered by the DRC at one of its scheduled meetings to make its recommendation to the commission. The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the plan. The plan may be granted preliminary approval with conditions. The agent shall notify the subdivider of the commission's findings within seven working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure final approval of the subdivision. If disapproved, the notice shall state the specific reasons for disapproval. The reasons for denial shall identify deficiencies in the plan which cause the disapproval by reference to specific duly adopted ordinances, regulations or policies, and shall generally identify such modifications or corrections as will permit approval of the plan. Plans granted preliminary approval by the commission at the conceptual stage can move forward into full design for further review administratively by the agent and other agencies as deemed necessary by the agent. In order for enhanced conceptual plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.
- (e) The enhanced conceptual plan shall at a minimum contain:
  - (1) Project title, title block, legends, north arrows and graphic scale labeled;
  - (2) Vicinity and location maps and site address;
  - (3) Site owner and developer information;
  - (4) County tax parcel number, site boundary and parcel size information;
  - (5) Setbacks (building, landscape) and buffers (RPA, Community Character);

- (6) Adjacent property information;
- (7) Existing site features such as property lines, roads, buildings, roads, driveways, and utilities;
- (8) Existing topography using county base mapping (five foot contours) or other mapping sources or surveys. Spot elevations shall be shown at topographical low or high points;
- (9) Existing and proposed rights-of-way and easements;
- (10) Layout of proposed improvements showing design placement, circulation, parking spaces, handicapped parking spaces, loading spaces, parking islands, recreation areas, and streetlights;
- (11) Landscape plan identifying general location of plantings and buffer/perimeter screening plantings;
- (12) Narrative indicating the purpose of the project and compliance with any proffer and master plan requirements;
- (13) Location and size of existing water mains and proposed connection point(s);
- (14) Proposed location of water meters, waterlines, and fire hydrants;
- (15) Proposed building usage and number of floors;
- (16) Preliminary water demands based on proposed use and required fire flow;
- (17) Fire flow test performed to determine adequate capacity;
- (18) Location of all existing or proposed private wells;
- (19) Location and size of existing sanitary sewer lines and manholes and proposed connection point(s);
- (20) Proposed sanitary sewer, pump or lift stations, and grinder pump(s);
- (21) Verification of sewer flow acceptance;
- (22) Location of primary and secondary onsite disposal system;
- (23) Narrative description of project, including usage and size to determine appropriate ITE code(s) and compliance with Chapter 527 Traffic Impact Analysis Regulations and Access Management Regulations;
- (24) Proposed entrance location(s) and distance to nearest existing intersections, crossovers, and/or adjacent intersections;
- (25) Proposed build out year and phasing information;
- (26) Typical road sections including street widths, curb type, shoulders, sidewalks, bike lanes, planting strips, right-of-way lines, proposed utility locations, centerline curve data;
- (27) Traffic Impact Study for projects that propose 100 or more lots, uses that generate in excess of 100 peak hour trips;
- (28) Proposed design features or elements for which waivers will be sought;
- (29) Project site area, disturbed area, impervious cover and percent impervious estimates;
- (30) Applicable FEMA FIRM panel information and zone designations;
- (31) County watershed, subwatershed and catchment;
- (32) Identification if the site is subject to the county's Special Stormwater Criteria (SSC);

- (33) Overall soils map for the site along with general soil descriptions for each soil mapping unit present on the site, including preliminary locations of highly erodible, hydric, permeable and Hydrologic Soil Group A and B soils;
- (34) Full environmental inventory consistent with section 23-10(2) of the county's Chesapeake Bay Preservation ordinance containing a perennial stream assessment, delineated wetlands confirmed by applicable federal and/or state agencies, limits of work, a table listing all inventory components, whether they are present on the site and quantified impacts, and offsite work areas, if proposed;
- (35) Demonstration that the project complies with section 23-9(b)(1), (2) and (3) of the county's Chesapeake Bay Preservation ordinance to limit land disturbing, preserve existing vegetation and minimize impervious cover consistent with the proposed land use or permitted development;
- (36) Locations of existing and proposed stormwater management/BMP facilities, with county BMP ID Code numbers and labels to show intended BMP type in accordance with designations in the county BMP manual;
- (37) Location of areas intended to be dedicated in conservation easement for natural open space, BMP worksheet or stormwater compliance purposes;
- (38) Demonstration that the project complies with the county's 10-point system for water quality and stream channel protection, and Minimum Standard #19 of the Virginia Erosion and Sediment Control regulations by provision of a worksheet for BMP Point System;
- (39) Demonstration that storm drainage systems and BMP outfalls must outlet into adequate, defined natural or man-made receiving channels;
- (40) Preliminary location of primary proposed stormwater drainage system conveyances such as inlets, storm drainage piping, culverts and stormwater conveyance channels for primary systems;
- (41) List of all known federal, state and local permits that are required for the project as well as any exceptions, variances or waivers that must be obtained or pursued.

(Ord. No. 30A-15, 1-9-89; Ord. No. 30A-16, 11-6-89; Ord. No. 30A-27, 12-15-99; Ord. No. 30A-37, 6-22-10; Ord. No. 30A-41, 12-11-12)

Sec. 24-147. - Criteria for review.

- (a) Upon application and review, the development review committee (DRC) and the commission, ~~or the commission's designee(s)~~, shall consider site plans if ~~any of the following conditions are present:~~
- (1) ~~The site plan proposes:~~
- ~~a. a multifamily development of ten or more units which is not subject to a binding legislatively approved master plan; or~~
  - ~~b. a shopping center; or~~
  - ~~c. a single building or group of buildings which contain a total floor area that exceeds 30,000 square feet which are not predominantly to be used as a warehouse, distribution center, office, or for other industrial or manufacturing purpose. The term predominantly shall be defined as 85 percent of the total square feet of the building or more.~~
- (2) ~~There~~ *There* are unresolved conflicts between the applicant, adjacent property owners and/or any departmental reviewing agency. Unresolved conflicts shall be defined as disagreements in the interpretation or application of ordinance requirements which have a material impact on the proposed development's off-site impacts and/or density, as determined by the planning director.
- (b) Site plans which meet ~~any of the conditions listed above~~ shall generally be reviewed by the DRC and the commission in accordance with section 24-148. ~~However, the commission's designee may consider and review, pursuant to section 24-149, any site plan which the economic development director determines to create or significantly expand a use which contributes to the achievement of the economic development goals of the Comprehensive Plan.~~
- (c) If site plans do not qualify for review by the commission or its designees under this section, they may be considered and reviewed administratively by the zoning administrator under the terms of section 24-150.

(Ord. No. 31A-132, 10-14-91; Ord. No. 31A-136, 1-6-92; Ord. No. 31A-157, 11-12-94; Ord. No. 31A-191, 4-13-99; Ord. No. 31A-246, 6-22-10; Ord. No. 31A-260, 1-10-12)

Sec. 24-148. - Procedure for commission review of site plans.

- (a) The applicant shall submit to the planning director, or his designee, ten copies of the site plan and pay the appropriate application fee. Site plans shall first be reviewed by the DRC who shall forward a recommendation to the commission. ~~In order for site plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such site plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.~~
- (b) Upon meeting all submittal requirements, the site plan shall be reviewed by the planning division and other agencies of the county, state and/or federal governments as deemed necessary by the planning director. The planning division shall prepare a composite report on the proposed site plan which shall include review comments and requirements by other agencies and determine consistency with all applicable zoning ordinance requirements, policies and regulations. The DRC shall consider the composite report and the site plan and make a recommendation to the commission.
- (c) The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the site plan. The site plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall notify the applicant of the commission's findings within ten working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure preliminary or final approval. If disapproved, the notice shall state the specific reasons for disapproval.

- (d) ~~The applicant may, at their discretion, submit an enhanced conceptual plan for review by the planning division, other agencies of the county, state and/or federal government as deemed necessary by the planning director in advance of preparation of fully engineered plans. The planning division shall prepare a composite report on the proposed plans which shall include review comments and requirements by other agencies and determine consistency with all applicable zoning ordinance requirements, policies and regulations. The composite report and the enhanced conceptual plan shall be considered by the DRC at one of its regularly scheduled monthly meetings to make its recommendation to the commission. The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the plan. The plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall notify the applicant of the commission's findings within ten working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure preliminary or final approval. If disapproved, such notice shall state the specific reasons for disapproval. Plans granted preliminary approval by the commission at the conceptual stage can move forward into full design for further review administratively by the planning division and other agencies as deemed necessary by the planning director. In order for enhanced conceptual plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.~~
- (e) ~~The enhanced conceptual plan shall at a minimum contain:~~
- ~~(1) Project title, title block, legends, north arrow and graphic scale labeled;~~
  - ~~(2) Vicinity and location maps and site address;~~
  - ~~(3) Site owner and developer information;~~
  - ~~(4) County tax parcel number, site boundary and parcel size information;~~
  - ~~(5) Setbacks (Building, Landscape) and Buffers (RPA, Community Character Corridor);~~
  - ~~(6) Adjacent property information;~~
  - ~~(7) Existing site features such as property lines, roads, buildings, driveways, and utilities;~~
  - ~~(8) Existing topography using county base mapping (five (5) foot contours) or other mapping sources or surveys. Spot elevations shall be shown at topographical low or high points;~~
  - ~~(9) Existing and proposed rights of way and easements;~~
  - ~~(10) Layout of proposed improvements showing design placement, circulation, parking spaces, handicapped parking spaces, loading spaces, parking islands, recreation areas, and streetlights;~~
  - ~~(11) Landscape plan identifying general location of plantings and buffer/perimeter screening plantings;~~
  - ~~(12) Narrative indicating the purpose of the project and compliance with any proffer and master plan requirements;~~
  - ~~(13) Location and size of existing water mains and proposed connection point(s);~~
  - ~~(14) Proposed location of water meters, waterlines, and fire hydrants;~~
  - ~~(15) Proposed building usage and number of floors;~~
  - ~~(16) Preliminary water demands based on proposed use and required fire flow;~~
  - ~~(17) Fire flow test performed to determine adequate capacity;~~

- (18) Location of all existing or proposed private wells;
- (19) Location and size of existing sanitary sewer lines and manholes and proposed connection point(s);
- (20) Proposed sanitary sewer, pump or lift stations, and grinder pump(s);
- (21) Verification of sewer flow acceptance;
- (22) Location of primary and secondary onsite disposal system;
- (23) Narrative description of project, including usage and size to determine appropriate ITE code(s) and compliance with Chapter 527 Traffic Impact Analysis Regulations and Access Management Regulations;
- (24) Proposed entrance location(s) and distance to nearest existing intersections, crossovers, and/or adjacent intersections;
- (25) Proposed build out year and phasing information;
- (26) Typical road sections including street widths, curb type, shoulders, sidewalks, bike lanes, planting strips, right of way lines, proposed utility locations, centerline curve data;
- (27) Traffic Impact Study for projects that propose 100 or more lots, uses that generate in excess of 100 peak hour trips;
- (28) Proposed design features or elements for which waivers will be sought;
- (29) Project site area, disturbed area, impervious cover and percent impervious estimates;
- (30) Applicable FEMA FIRM panel information and zone designations;
- (31) County watershed, subwatershed and catchment;
- (32) Identify if the site is subject to the county's Special Stormwater Criteria (SSC);
- (33) Overall soils map for the site along with general soil descriptions for each soil mapping unit present on the site, including preliminary locations of highly erodible, hydric, permeable and hydrologic soil groups A and B soils;
- (34) Full environmental inventory consistent with section 23-10(2) of the county's Chesapeake Bay Preservation ordinance containing a perennial stream assessment, delineated wetlands confirmed by applicable federal and/or state agencies, limits of work, a table listing all inventory components, whether they are present on the site and quantified impacts, and offsite work areas, if proposed;
- (35) Demonstration that the project complies with section 23-9(b)(1), (2) and (3) of the county's Chesapeake Bay Preservation ordinance to limit land disturbing, preserve existing vegetation and minimize impervious cover consistent with the proposed land use or permitted development;
- (36) Locations of existing and proposed stormwater management/BMP facilities, with county BMP ID code numbers and labels to show intended BMP type in accordance with designations in the county BMP manual;
- (37) Identify location of areas intended to be dedicated in conservation easement for natural open space, BMP worksheet or stormwater compliance purposes;
- (38) Demonstration that the project complies with the county's 10 point system for water quality and stream channel protection, and minimum standard number 19 of the Virginia Erosion and Sediment Control regulations by provision of a worksheet for BMP point system;

- ~~(39) Demonstration that storm drainage systems and BMP outfalls must outlet into adequate, defined natural or man-made receiving channels;~~
- ~~(40) Identify preliminary location of primary proposed stormwater drainage system conveyances such as inlets, storm drainage piping, culverts and stormwater conveyance channels for primary systems;~~
- ~~(41) List of all known federal, state and local permits that are required for the project as well as any exceptions, variances or waivers that must be obtained or pursued.~~

~~(Ord. No. 31A-132, 10-14-91; Ord. No. 31A-246, 6-22-10; Ord. No. 31A-267, 6-12-12)~~

~~Sec. 24-149. Procedure for review of site plans by the commission's designee(s).~~

- ~~(a) The applicant shall submit to the planning director, or his designee, ten copies of the site plan and pay the appropriate application fee.~~
- ~~(b) Upon meeting all submittal requirements, the site plan shall be reviewed by the planning division and other agencies of the county, state and/or federal governments as deemed necessary by the planning director. The planning division shall prepare a composite report on the proposed site plan which shall include review comments and requirements by other agencies and submit the report to the commission's designees for consideration.~~
- ~~(c) The commission's designees shall consider the planning division's report and either grant preliminary approval, defer, disapprove or refer the site plan back to the DRC. The site plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall provide written notice to the applicant of the commission's designee's decision. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure preliminary or final approval. If disapproved, the notice shall state the specific reasons for disapproval.~~

~~(Ord. No. 31A-136, 1-6-92; Ord. No. 31A-267, 6-12-12)~~

Sec. 24-147. - Criteria for review.

- (a) Upon application and review, the development review committee (DRC) and the commission, or the commission's designee(s), shall consider ~~site plans~~ *enhanced conceptual plans* if any of the following conditions are present:
- (1) The ~~site plan~~ *application* proposes:
    - a. a multifamily development of ten or more units which is not subject to a binding legislatively approved master plan; or
    - b. a shopping center; or
    - c. a single building or group of buildings which contain a total floor area that exceeds 30,000 square feet which are not predominantly to be used as a warehouse, distribution center, office, or for other industrial or manufacturing purpose. The term predominantly shall be defined as 85 percent of the total square feet of the building or more.
  - (2) There are unresolved conflicts between the applicant, adjacent property owners and/or any departmental reviewing agency. Unresolved conflicts shall be defined as disagreements in the interpretation or application of ordinance requirements which have a material impact on the proposed development's off-site impacts and/or density, as determined by the planning director.
- (b) ~~Site plans~~ *Applications* which meet any of the conditions listed above shall ~~generally~~ be reviewed *as an enhanced conceptual plan* by the DRC and the commission in accordance with section 24-148. However, the commission's designee may consider and review, pursuant to section 24-149, any ~~site plan~~ which the economic development director determines to create or significantly expand a use which contributes to the achievement of the economic development goals of the Comprehensive Plan.
- (c) If site plans do not qualify for review by the commission or its designees under this section, they may be considered and reviewed administratively by the zoning administrator under the terms of section 24-150.

(Ord. No. 31A-132, 10-14-91; Ord. No. 31A-136, 1-6-92; Ord. No. 31A-157, 11-12-94; Ord. No. 31A-191, 4-13-99; Ord. No. 31A-246, 6-22-10; Ord. No. 31A-260, 1-10-12)

Sec. 24-148. - Procedure for commission review of ~~site plans~~ *enhanced conceptual plans*.

- (a) The applicant shall submit to the planning director, or his designee, ten copies of the ~~site plan~~ *enhanced conceptual plan* and pay the appropriate application fee. Plans shall first be reviewed by the DRC who shall forward a recommendation to the commission. In order for ~~site~~ plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such ~~site~~ plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.
- (b) Upon meeting all submittal requirements *pursuant to Section 24-148(e)*, the ~~site~~ *enhanced conceptual plan* shall be reviewed by the planning division and other agencies of the county, state and/or federal governments as deemed necessary by the planning director. The

planning division shall prepare a composite report on the proposed site plan which shall include review comments and requirements by other agencies and determine consistency with all applicable zoning ordinance requirements, policies and regulations. The DRC shall consider the composite report and the site *enhanced conceptual* plan and make a recommendation to the commission.

- (c) The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the site *enhanced conceptual* plan. The site plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall notify the applicant of the commission's findings within ten working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure preliminary or final approval. If disapproved, the notice shall state the specific reasons for disapproval.
- (d) ~~The applicant may, at their discretion, submit an enhanced conceptual plan for review by the planning division, other agencies of the county, state and/or federal government as deemed necessary by the planning director in advance of preparation of fully engineered plans. The planning division shall prepare a composite report on the proposed plans which shall include review comments and requirements by other agencies and determine consistency with all applicable zoning ordinance requirements, policies and regulations. The composite report and the enhanced conceptual plan shall be considered by the DRC at one of its regularly scheduled monthly meetings to make its recommendation to the commission. The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the plan. The plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall notify the applicant of the commission's findings within ten working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure preliminary or final approval. If disapproved, such notice shall state the specific reasons for disapproval. Plans granted preliminary approval by the commission at the conceptual stage can move forward into full design for further review administratively by the planning division and other agencies as deemed necessary by the planning director. In order for enhanced conceptual plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.~~
- (e) The enhanced conceptual plan shall at a minimum contain:
  - (1) Project title, title block, legends, north arrow and graphic scale labeled;
  - (2) Vicinity and location maps and site address;
  - (3) Site owner and developer information;
  - (4) County tax parcel number, site boundary and parcel size information;
  - (5) Setbacks (Building, Landscape) and Buffers (RPA, Community Character Corridor);
  - (6) Adjacent property information;
  - (7) Existing site features such as property lines, roads, buildings, driveways, and utilities;

- (8) Existing topography using county base mapping (five (5) foot contours) or other mapping sources or surveys. Spot elevations shall be shown at topographical low or high points;
- (9) Existing and proposed rights-of-way and easements;
- (10) Layout of proposed improvements showing design placement, circulation, parking spaces, handicapped parking spaces, loading spaces, parking islands, recreation areas, and streetlights;
- (11) Landscape plan identifying general location of plantings and buffer/perimeter screening plantings;
- (12) Narrative indicating the purpose of the project and compliance with any proffer and master plan requirements;
- (13) Location and size of existing water mains and proposed connection point(s);
- (14) Proposed location of water meters, waterlines, and fire hydrants;
- (15) Proposed building usage and number of floors;
- (16) Preliminary water demands based on proposed use and required fire flow;
- (17) Fire flow test performed to determine adequate capacity;
- (18) Location of all existing or proposed private wells;
- (19) Location and size of existing sanitary sewer lines and manholes and proposed connection point(s);
- (20) Proposed sanitary sewer, pump or lift stations, and grinder pump(s);
- (21) Verification of sewer flow acceptance;
- (22) Location of primary and secondary onsite disposal system;
- (23) Narrative description of project, including usage and size to determine appropriate ITE code(s) and compliance with Chapter 527 Traffic Impact Analysis Regulations and Access Management Regulations;
- (24) Proposed entrance location(s) and distance to nearest existing intersections, crossovers, and/or adjacent intersections;
- (25) Proposed build out year and phasing information;
- (26) Typical road sections including street widths, curb type, shoulders, sidewalks, bike lanes, planting strips, right-of-way lines, proposed utility locations, centerline curve data;
- (27) Traffic Impact Study for projects that propose 100 or more lots, uses that generate in excess of 100 peak hour trips;
- (28) Proposed design features or elements for which waivers will be sought;
- (29) Project site area, disturbed area, impervious cover and percent impervious estimates;
- (30) Applicable FEMA FIRM panel information and zone designations;

- (31) County watershed, subwatershed and catchment;
- (32) Identify if the site is subject to the county's Special Stormwater Criteria (SSC);
- (33) Overall soils map for the site along with general soil descriptions for each soil mapping unit present on the site, including preliminary locations of highly erodible, hydric, permeable and hydrologic soil groups A and B soils;
- (34) Full environmental inventory consistent with section 23-10(2) of the county's Chesapeake Bay Preservation ordinance containing a perennial stream assessment, delineated wetlands confirmed by applicable federal and/or state agencies, limits of work, a table listing all inventory components, whether they are present on the site and quantified impacts, and offsite work areas, if proposed;
- (35) Demonstration that the project complies with section 23-9(b)(1), (2) and (3) of the county's Chesapeake Bay Preservation ordinance to limit land disturbing, preserve existing vegetation and minimize impervious cover consistent with the proposed land use or permitted development;
- (36) Locations of existing and proposed stormwater management/BMP facilities, with county BMP ID code numbers and labels to show intended BMP type in accordance with designations in the county BMP manual;
- (37) Identify location of areas intended to be dedicated in conservation easement for natural open space, BMP worksheet or stormwater compliance purposes;
- (38) Demonstration that the project complies with the county's 10-point system for water quality and stream channel protection, and minimum standard number 19 of the Virginia Erosion and Sediment Control regulations by provision of a worksheet for BMP point system;
- (39) Demonstration that storm drainage systems and BMP outfalls must outlet into adequate, defined natural or man-made receiving channels;
- (40) Identify preliminary location of primary proposed stormwater drainage system conveyances such as inlets, storm drainage piping, culverts and stormwater conveyance channels for primary systems;
- (41) List of all known federal, state and local permits that are required for the project as well as any exceptions, variances or waivers that must be obtained or pursued.

(Ord. No. 31A-132, 10-14-91; Ord. No. 31A-246, 6-22-10; Ord. No. 31A-267, 6-12-12)

Sec. 24-149. - Procedure for review of site plans by the commission's designee(s).

- (a) The applicant shall submit to the planning director, or his designee, ten copies of the site plan and pay the appropriate application fee.
- (b) Upon meeting all submittal requirements, the site plan shall be reviewed by the planning division and other agencies of the county, state and/or federal governments as deemed necessary by the planning director. The planning division shall prepare a composite report

on the proposed site plan which shall include review comments and requirements by other agencies and submit the report to the commission's designees for consideration.

- (c) The commission's designees shall consider the planning division's report and either grant preliminary approval, defer, disapprove or refer the site plan back to the DRC. The site plan may be granted preliminary approval with conditions that must be satisfied prior to final approval by the zoning administrator. The planning division shall provide written notice to the applicant of the commission's designee's decision. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure preliminary or final approval. If disapproved, the notice shall state the specific reasons for disapproval.

(Ord. No. 31A-136, 1-6-92; Ord. No. 31A-267, 6-12-12)

Sec. 19-23. - Procedure for preliminary plan review for major subdivisions.

- (a) The subdivider shall submit to the agent twelve copies of the preliminary subdivision plan for a major subdivision and pay the appropriate subdivision plan review fee.
- (b) Upon meeting all submittal requirements, the plan shall be reviewed by the agent and other agencies of the county and state as deemed necessary by the agent. The agent shall prepare a composite report on the proposed subdivision to determine if it meets the requirements of this chapter and the zoning ordinance. The report shall include review requirements by other agencies. The preliminary plan and the agent's composite report shall be reviewed by the ~~development review committee (DRC) when it meets to make its recommendation to the commission.~~ *commission*. In order for subdivision plans to be considered by the *DRC commission* at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective *DRC commission meeting*.
- (c) The commission shall consider the plan and either grant preliminary approval or disapprove it within 90 days of submittal. The plan may be granted preliminary approval with conditions. The agent shall notify the applicant of the commission's findings in writing within seven days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure final approval of the subdivision. If disapproved, the notice shall state the specific reasons for disapproval. The reasons for denial shall identify deficiencies in the plan which cause the disapproval by reference to specific duly adopted ordinances, regulations or policies, and shall generally identify such modifications or corrections as will permit approval of the plan.
- (d) ~~The subdivider may, at their discretion, submit an enhanced conceptual plan for review by the agent, other agencies of the county and state deemed necessary by the agent and the DRC in advance of preparation of fully engineered plans. The agent shall prepare a composite report on the proposed subdivision to determine its consistency with the requirements of this chapter and the zoning ordinance. The report shall include review comments and requirements by other agencies. The enhanced conceptual plan and the agent's composite report shall be considered by the DRC at one of its scheduled meetings to make its recommendation to the commission. The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the plan. The plan may be granted preliminary approval with conditions. The agent shall notify the subdivider of the commission's findings within seven working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure final approval of the subdivision. If disapproved, the notice shall state the specific reasons for disapproval. The reasons for denial shall identify deficiencies in the plan which cause the disapproval by reference to specific duly adopted ordinances, regulations or policies, and shall generally identify such modifications or corrections as will permit approval of the plan. Plans granted preliminary approval by the commission at the conceptual stage can move forward into full design for further review administratively by the agent and other agencies as deemed necessary by the agent. In order for enhanced conceptual plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.~~
- (e) ~~The enhanced conceptual plan shall at a minimum contain:~~
  - (1) ~~Project title, title block, legends, north arrows and graphic scale labeled;~~
  - (2) ~~Vicinity and location maps and site address;~~
  - (3) ~~Site owner and developer information;~~
  - (4) ~~County tax parcel number, site boundary and parcel size information;~~

- ~~(5) Setbacks (building, landscape) and buffers (RPA, Community Character);~~
- ~~(6) Adjacent property information;~~
- ~~(7) Existing site features such as property lines, roads, buildings, roads, driveways, and utilities;~~
- ~~(8) Existing topography using county base mapping (five foot contours) or other mapping sources or surveys. Spot elevations shall be shown at topographical low or high points;~~
- ~~(9) Existing and proposed rights of way and easements;~~
- ~~(10) Layout of proposed improvements showing design placement, circulation, parking spaces, handicapped parking spaces, loading spaces, parking islands, recreation areas, and streetlights;~~
- ~~(11) Landscape plan identifying general location of plantings and buffer/perimeter screening plantings;~~
- ~~(12) Narrative indicating the purpose of the project and compliance with any proffer and master plan requirements;~~
- ~~(13) Location and size of existing water mains and proposed connection point(s);~~
- ~~(14) Proposed location of water meters, waterlines, and fire hydrants;~~
- ~~(15) Proposed building usage and number of floors;~~
- ~~(16) Preliminary water demands based on proposed use and required fire flow;~~
- ~~(17) Fire flow test performed to determine adequate capacity;~~
- ~~(18) Location of all existing or proposed private wells;~~
- ~~(19) Location and size of existing sanitary sewer lines and manholes and proposed connection point(s);~~
- ~~(20) Proposed sanitary sewer, pump or lift stations, and grinder pump(s);~~
- ~~(21) Verification of sewer flow acceptance;~~
- ~~(22) Location of primary and secondary onsite disposal system;~~
- ~~(23) Narrative description of project, including usage and size to determine appropriate ITE code(s) and compliance with Chapter 527 Traffic Impact Analysis Regulations and Access Management Regulations;~~
- ~~(24) Proposed entrance location(s) and distance to nearest existing intersections, crossovers, and/or adjacent intersections;~~
- ~~(25) Proposed build-out year and phasing information;~~
- ~~(26) Typical road sections including street widths, curb type, shoulders, sidewalks, bike lanes, planting strips, right of way lines, proposed utility locations, centerline curve data;~~
- ~~(27) Traffic Impact Study for projects that propose 100 or more lots, uses that generate in excess of 100 peak hour trips;~~
- ~~(28) Proposed design features or elements for which waivers will be sought;~~
- ~~(29) Project site area, disturbed area, impervious cover and percent impervious estimates;~~
- ~~(30) Applicable FEMA FIRM panel information and zone designations;~~
- ~~(31) County watershed, subwatershed and catchment;~~
- ~~(32) Identification if the site is subject to the county's Special Stormwater Criteria (SSC);~~

- (33) ~~Overall soils map for the site along with general soil descriptions for each soil mapping unit present on the site, including preliminary locations of highly erodible, hydric, permeable and Hydrologic Soil Group A and B soils;~~
- (34) ~~Full environmental inventory consistent with section 23-10(2) of the county's Chesapeake Bay Preservation ordinance containing a perennial stream assessment, delineated wetlands confirmed by applicable federal and/or state agencies, limits of work, a table listing all inventory components, whether they are present on the site and quantified impacts, and offsite work areas, if proposed;~~
- (35) ~~Demonstration that the project complies with section 23-9(b)(1), (2) and (3) of the county's Chesapeake Bay Preservation ordinance to limit land disturbing, preserve existing vegetation and minimize impervious cover consistent with the proposed land use or permitted development;~~
- (36) ~~Locations of existing and proposed stormwater management/BMP facilities, with county BMP ID Code numbers and labels to show intended BMP type in accordance with designations in the county BMP manual;~~
- (37) ~~Location of areas intended to be dedicated in conservation easement for natural open space, BMP worksheet or stormwater compliance purposes;~~
- (38) ~~Demonstration that the project complies with the county's 10 point system for water quality and stream channel protection, and Minimum Standard #19 of the Virginia Erosion and Sediment Control regulations by provision of a worksheet for BMP Point System;~~
- (39) ~~Demonstration that storm drainage systems and BMP outfalls must outlet into adequate, defined natural or man-made receiving channels;~~
- (40) ~~Preliminary location of primary proposed stormwater drainage system conveyances such as inlets, storm drainage piping, culverts and stormwater conveyance channels for primary systems;~~
- (41) ~~List of all known federal, state and local permits that are required for the project as well as any exceptions, variances or waivers that must be obtained or pursued.~~

(Ord. No. 30A-15, 1-9-89; Ord. No. 30A-16, 11-6-89; Ord. No. 30A-27, 12-15-99; Ord. No. 30A-37, 6-22-10; Ord. No. 30A-41, 12-11-12)

Sec. 19-23. - Procedure for preliminary plan review for major subdivisions.

- (a) The subdivider shall submit to the agent twelve copies of the ~~preliminary~~ *enhanced conceptual* subdivision plan for a major subdivision and pay the appropriate subdivision plan review fee.
- (b) Upon meeting all submittal requirements, *the enhanced conceptual* plan shall be reviewed by the agent and other agencies of the county and state as deemed necessary by the agent. The agent shall prepare a composite report on the proposed subdivision to determine if it meets the requirements of this chapter and the zoning ordinance. The report shall include review requirements by other agencies. The ~~preliminary~~ *enhanced conceptual* plan and the agent's composite report shall be reviewed by the development review committee (DRC) when it meets to make its recommendation to the commission. In order for subdivision plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.
- (c) The commission shall consider the *enhanced conceptual* plan and either grant preliminary approval or disapprove it within 90 days of submittal. The plan may be granted preliminary approval with conditions. The agent shall notify the applicant of the commission's findings in writing within seven days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure final approval of the subdivision. If disapproved, the notice shall state the specific reasons for disapproval. The reasons for denial shall identify deficiencies in the plan which cause the disapproval by reference to specific duly adopted ordinances, regulations or policies, and shall generally identify such modifications or corrections as will permit approval of the plan. *Plans granted preliminary approval by the commission at the conceptual stage can move forward into full design for further review administratively by the agent and other agencies as deemed necessary by the agent.*
- (d) ~~The subdivider may, at their discretion, submit an enhanced conceptual plan for review by the agent, other agencies of the county and state deemed necessary by the agent and the DRC in advance of preparation of fully engineered plans. The agent shall prepare a composite report on the proposed subdivision to determine its consistency with the requirements of this chapter and the zoning ordinance. The report shall include review comments and requirements by other agencies. The enhanced conceptual plan and the agent's composite report shall be considered by the DRC at one of its scheduled meetings to make its recommendation to the commission. The commission shall consider the recommendation of the DRC and either grant preliminary approval, defer or disapprove the plan. The plan may be granted preliminary approval with conditions. The agent shall notify the subdivider of the commission's findings within seven working days of the commission meeting. Such notice shall state any actions, changes, conditions or additional information that shall be required to secure final approval of the subdivision. If disapproved, the notice shall state the specific reasons for disapproval. The reasons for denial shall identify deficiencies in the plan which cause the disapproval by reference to specific duly adopted ordinances, regulations or policies, and shall generally identify such modifications or corrections as will permit approval of the plan. Plans granted preliminary approval by the commission at the conceptual stage can move forward into full design for further review administratively by the agent and other agencies as deemed necessary by the agent. In order for enhanced conceptual plans to be considered by the DRC at one of its regularly scheduled monthly meetings, such plans shall be received by the planning division at least five weeks in advance of the respective DRC meeting.~~
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- (3) Site owner and developer information;
- (4) County tax parcel number, site boundary and parcel size information;
- (5) Setbacks (building, landscape) and buffers (RPA, Community Character);
- (6) Adjacent property information;
- (7) Existing site features such as property lines, roads, buildings, roads, driveways, and utilities;
- (8) Existing topography using county base mapping (five foot contours) or other mapping sources or surveys. Spot elevations shall be shown at topographical low or high points;
- (9) Existing and proposed rights-of-way and easements;
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- (30) Applicable FEMA FIRM panel information and zone designations;

- (31) County watershed, subwatershed and catchment;
- (32) Identification if the site is subject to the county's Special Stormwater Criteria (SSC);
- (33) Overall soils map for the site along with general soil descriptions for each soil mapping unit present on the site, including preliminary locations of highly erodible, hydric, permeable and Hydrologic Soil Group A and B soils;
- (34) Full environmental inventory consistent with section 23-10(2) of the county's Chesapeake Bay Preservation ordinance containing a perennial stream assessment, delineated wetlands confirmed by applicable federal and/or state agencies, limits of work, a table listing all inventory components, whether they are present on the site and quantified impacts, and offsite work areas, if proposed;
- (35) Demonstration that the project complies with section 23-9(b)(1), (2) and (3) of the county's Chesapeake Bay Preservation ordinance to limit land disturbing, preserve existing vegetation and minimize impervious cover consistent with the proposed land use or permitted development;
- (36) Locations of existing and proposed stormwater management/BMP facilities, with county BMP ID Code numbers and labels to show intended BMP type in accordance with designations in the county BMP manual;
- (37) Location of areas intended to be dedicated in conservation easement for natural open space, BMP worksheet or stormwater compliance purposes;
- (38) Demonstration that the project complies with the county's 10-point system for water quality and stream channel protection, and Minimum Standard #19 of the Virginia Erosion and Sediment Control regulations by provision of a worksheet for BMP Point System;
- (39) Demonstration that storm drainage systems and BMP outfalls must outlet into adequate, defined natural or man-made receiving channels;
- (40) Preliminary location of primary proposed stormwater drainage system conveyances such as inlets, storm drainage piping, culverts and stormwater conveyance channels for primary systems;
- (41) List of all known federal, state and local permits that are required for the project as well as any exceptions, variances or waivers that must be obtained or pursued.

(Ord. No. 30A-15, 1-9-89; Ord. No. 30A-16, 11-6-89; Ord. No. 30A-27, 12-15-99; Ord. No. 30A-37, 6-22-10; Ord. No. 30A-41, 12-11-12)

**ITEM SUMMARY**

DATE: 4/14/2016

TO: The Policy Committee

FROM: Roberta Sulouff, Planner; Jose Ribeiro, Senior Planner II

SUBJECT: Proposed Zoning Ordinance Revisions to the LB, Limited Business and B-1, General Business Districts

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**ATTACHMENTS:**

	Description	Type
▣	Memorandum	Cover Memo
▣	Current Code: Section 24-371 Setback Requirements (LB) and Section 24-392 Setback Requirements (B-1)	Backup Material
▣	Current Code: Section 24-375 Building Coverage Limits (LB) and Section 24-397 Building Coverage Limits (B-1)	Backup Material
▣	Draft Zoning Ordinance Amendments	Backup Material

**REVIEWERS:**

Department	Reviewer	Action	Date
Policy	Rosario, Tammy	Approved	4/8/2016 - 9:40 AM
Policy	Holt, Paul	Approved	4/8/2016 - 10:07 AM
Publication Management	Boles, Amy	Approved	4/8/2016 - 10:11 AM
Policy Secretary	Secretary, Policy	Approved	4/8/2016 - 11:52 AM

## MEMORANDUM

DATE: April 14, 2016

TO: The Policy Committee

FROM: Roberta Sulouff, Planner  
Jose Ribeiro, Senior Planner II

SUBJECT: Zoning Ordinance Revisions to the LB, Limited Business and B-1, General Business Districts

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### **Background**

In 2012 staff undertook several updates to the Zoning Ordinance in an effort to incorporate recommendations from the Business Climate Taskforce. The intent of these updates was to create a more predictable and flexible development review process. This intent is echoed in Actions 1.5 and 5.2 found in the Economic Development section of the 2035 Comprehensive Plan, which state that staff will work to identify regulatory barriers in the policies and procedures that may unnecessarily inhibit development and adaptive reuse.

In reviewing Zoning Ordinance text for consistency and clarity, staff has identified several opportunities to update the LB, Limited Business and B-1, General Business Ordinances and proposed those changes at the October 2015 Policy Committee meeting. Staff proposed minor amendments to building setbacks and building coverage limits in both sections. At that meeting, members identified these issues as priorities for the upcoming year. Given the straightforward nature of the proposed changes, staff has drafted ordinance language for the Policy Committee's consideration at today's meeting. At this stage, staff will gather feedback on the draft language. Any suggested edits will be incorporated in the drafts before bringing the amendments to the Planning Commission and Board of Supervisors for adoption.

### **Proposed Changes**

1. *Setback*: Minor revisions are proposed to sections dealing with setback reductions for both LB and B-1 Zoning districts, Sections 24-371 and 24-392, respectively. The revisions proposed to these sections do not change the substance of the setback reduction requirements; rather, it organizes existing information, making it clearer and also more comprehensive as it incorporates existing language found in the setback requirement section of the MU, Mixed Use ordinance (Section 24-523). For consistency between similar districts, revisions to the language describing the criteria and standards for setback reductions in LB and B-1 are proposed to be the same.
2. *Building coverage limits*: Minor revisions are proposed to sections dealing with building coverage limit requirements for both LB and B-1 Zoning districts, Sections 24-375 and 24-397, respectively. Building coverage is defined as the ratio of the building(s) area divided by the area of the lot in which is located. Currently, both sections require building coverage not to exceed 30% of the total lot area. The proposed amendment would increase the building coverage to 60% on both Zoning districts allowing for an increase in building square footage on lots zoned LB and B-1.

The language regarding Floor Area Ratio (FAR) is being deleted from these sections of the ordinance. FAR is defined as the ratio of the total floor area of a building(s) divided by the area of the lot in which is located. Similarly to building coverage, FAR is used to measure the development intensity of a parcel; however, FAR can impose development limits on the height of buildings and structures. As both LB and

B-1 ordinances already have sections which restrict height, the existing FAR language appears to be unnecessary.

**Recommendation**

Staff recommends that the Policy Committee recommend approval of the proposed Zoning Ordinance amendments to the Planning Commission for consideration at its June 1, 2016 meeting.

RS/JR/ab

ZORevLBB1-mem

Attachments:

1. Section 24-371. Setback Requirements (LB) and Section 24-392. Setback Requirements (B-1)
2. Section 24-375. Building Coverage Limits (LB) and Section 24-397. Building Coverage Limits (B-1)
3. Draft Zoning Ordinance amendments

## **LB, Limited Business**

### **Sec. 24-371. - Setback requirements.**

Structures shall be located 50 feet or more from any street right-of-way which is 50 feet or greater in width. Where the street right-of-way is less than 50 feet in width, structures shall be located 75 feet or more from the centerline of the street.

Setbacks may be reduced to 25 feet from any street right-of-way which is 50 feet or greater in width or 50 feet from the centerline of the street where the street right-of-way is less than 50 feet in width with approval of the planning director. In the event the planning director disapproves plans of this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.

A site shall not be considered for a setback reduction if it is located on a planned road that is designated for widening improvements. A planned road includes any road or similar transportation facility as designated on the Comprehensive Plan, Six-Year Primary or Secondary Road Plan, Peninsula Area Transportation Plan or any road plan adopted by the board of supervisors. The planning director will consider a setback reduction only if the setback reduction will achieve results which clearly satisfy the overall purposes and intent of section 24-86 (Landscaping and Tree Preservation Requirements); if the setbacks do not negatively impact adjacent property owners; and if one or more of the following criteria are met:

- (a) The site is located on a Community Character Corridor or is designated a Community Character Area on the Comprehensive Plan Land Use Map, and proposed setbacks will better complement the design standards of the Community Character Corridor.
- (b) The adjacent properties have setbacks that are non-conforming with this section, and the proposed setbacks will better complement the established setbacks of adjacent properties, where such setbacks help achieve the goals and objectives of the Comprehensive Plan.
- (c) The applicant has offered extraordinary site design which better meets the Development Standards of the Comprehensive Plan.

Appeals. In the event the planning director disapproves plans of this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.

(Ord. No. 31A-88, § 20-LB.5, 4-8-85; Ord. No. 31A-187, 3-23-99; Ord. No. 31A-261, 1-10-12)

## **B-1, General Business**

### **Sec. 24-392. - Setback requirements.**

Structures shall be located 50 feet or more from any street right-of-way which is 50 feet or greater in width. Where the street right-of-way is less than 50 feet in width, structures shall be located 75 feet or more from the centerline of the street.

- (1) Setbacks may be reduced to 25 feet from any street right-of-way which is 50 feet or greater in width or 50 feet from the centerline of the street where the street right-of-way is less than 50 feet in width with approval of the planning director.

A site shall not be considered for a setback reduction if it is located on a planned road that is designated for widening improvements. A planned road includes any road or similar transportation facility as designated on the Comprehensive Plan, Six-Year Primary or

Secondary Road Plan, Peninsula Area Transportation Plan or any road plan adopted by the board of supervisors. The planning director will consider a setback reduction only if the setback reduction will achieve results which clearly satisfy the overall purposes and intent of article II, division 4 of this chapter (Landscaping and Tree Preservation Requirements); if the setbacks do not negatively impact adjacent property owners; and if one or more of the following criteria are met:

- (a) The site is located on a Community Character Corridor or is designated a Community Character Area on the Comprehensive Plan Land Use Map, and proposed setbacks will better complement the design standards of the Community Character Corridor.
  - (b) The adjacent properties have setbacks that are non-conforming with this section, and the proposed setbacks will better complement the established setbacks of adjacent properties, where such setbacks help achieve the goals and objectives of the Comprehensive Plan.
  - (c) The applicant has offered site design which meets or exceeds the Development Standards of the Comprehensive Plan.
- (2) In areas where the board of supervisors has adopted specific design guidelines that call for reduction of setbacks in excess of those permitted in sub-section (1), the planning director can approve reductions upon finding substantial conformance with recommendations from the guidelines and compliance with the criteria from sub-section (1) above.
- (3) Appeals. In the event the planning director disapproves plans submitted under the provisions of this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision of the planning director to the development review committee who shall forward a recommendation to the planning commission.

(Ord. No. 31A-88, § 20-84, 4-8-85; Ord. No. 31A-180, 9-8-98; Ord. No. 31A-241, 6-9-09; Ord. No. 31A-262, 1-10-12; Ord. No. 31A-291, 8-13-13)

## **LB, Limited Business**

### **Sec. 24-375. - Building coverage limits.**

Building coverage shall not exceed 30 percent of the total lot area. The floor area ratio shall not exceed 40 percent of the total lot area.

(Ord. No. 31A-187, 3-23-99; Ord. No. 31A-261, 1-10-12)

## **B-1, General Business**

### **Sec. 24-397. - Building coverage limits.**

Building coverage shall not exceed 30 percent of the total lot area and the floor area ratio shall not exceed 60 percent.

(Ord. No. 31A-180, 9-8-98; Ord. No. 31A-262, 1-10-12)

## LB, Limited Business

### Sec. 24-371. - Setback requirements.

Structures shall be located 50 feet or more from any street right-of-way which is 50 feet or greater in width. Where the street right-of-way is less than 50 feet in width, structures shall be located 75 feet or more from the centerline of the street.

(1) Setbacks may be reduced to 25 feet from any street right-of-way which is 50 feet or greater in width or 50 feet from the centerline of the street where the street right-of-way is less than 50 feet in width with approval of the planning director. ~~In the event the planning director disapproves plans of this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.~~

A site shall not be considered for a setback reduction if it is located on a planned road that is designated for widening improvements. A planned road includes any road or similar transportation facility as designated on the Comprehensive Plan, Six-Year Primary or Secondary Road Plan, ~~Peninsula Area Transportation Plan~~ or any road plan adopted by the board of supervisors. The planning director will consider a setback reduction only ~~if the setback reduction will achieve results which clearly satisfy the overall purposes and intent of section 24-86 (Landscaping and Tree Preservation Requirements);~~ if the setbacks do not ~~negatively impact adjacent property owners~~ *have additional adverse impact on adjacent properties or public areas, and will not result in detrimental impacts to the orderly development or character of the area, the environment, sound engineering or planning practice, or the goals, objectives, strategies and policies of the Comprehensive Plan;* and if one or more of the following criteria are met:

- (a) The site is located on a Community Character Corridor or is designated a Community Character Area on the Comprehensive Plan Land Use Map, and proposed setbacks will better complement the design standards of the Community Character Corridor.
- (b) The adjacent properties have setbacks that are non-conforming with this section, and the proposed setbacks will better complement the established setbacks of adjacent properties, where such setbacks help achieve the goals and objectives of the Comprehensive Plan.
- (c) The applicant has offered extraordinary site design which ~~better meets~~ **exceeds** the Development Standards of the Comprehensive Plan.

~~(d) The setback reduction will achieve results which clearly satisfy the overall purposes and intent of section 24-86 (Landscaping and Tree Preservation Requirements).~~

(2) In areas where the board of supervisors has adopted specific design guidelines that call for reduction of setbacks in excess of those permitted in sub-section (1), the planning director can approve reductions upon finding substantial conformance with recommendations from the guidelines and compliance with the criteria from sub-section (1) above.

(3) Appeals. In the event the planning director disapproves plans of this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.

(Ord. No. 31A-88, § 20-LB.5, 4-8-85; Ord. No. 31A-187, 3-23-99; Ord. No. 31A-261, 1-10-12)

## B-1, General Business

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(1) Setbacks may be reduced to 25 feet from any street right-of-way which is 50 feet or greater in width or 50 feet from the centerline of the street where the street right-of-way is less than 50 feet in width with approval of the planning director.

A site shall not be considered for a setback reduction if it is located on a planned road that is designated for widening improvements. A planned road includes any road or similar transportation facility as designated on the Comprehensive Plan, Six-Year Primary or Secondary Road Plan, ~~Peninsula Area Transportation Plan~~ or any road plan adopted by the board of supervisors. The planning director will consider a setback reduction only ~~if the setback reduction will achieve results which clearly satisfy the overall purposes and intent of section 24-86 (Landscaping and Tree Preservation Requirements);~~ if the setbacks do not ~~negatively impact adjacent property owners~~ *have additional adverse impact on adjacent properties or public areas, and will not result in detrimental impacts to the orderly development or character of the area, the environment, sound engineering or planning practice, or the goals, objectives, strategies and policies of the Comprehensive Plan;* and if one or more of the following criteria are met:

- (a) The site is located on a Community Character Corridor or is designated a Community Character Area on the Comprehensive Plan Land Use Map, and proposed setbacks will better complement the design standards of the Community Character Corridor.
- (b) The adjacent properties have setbacks that are non-conforming with this section, and the proposed setbacks will better complement the established setbacks of adjacent properties, where such setbacks help achieve the goals and objectives of the Comprehensive Plan.
- (c) The applicant has offered extraordinary site design which ~~meets~~ **exceeds** the Development Standards of the Comprehensive Plan.

*(d) The setback reduction will achieve results which clearly satisfy the overall purposes and intent of section 24-86 (Landscaping and Tree Preservation Requirements).*

(2) In areas where the board of supervisors has adopted specific design guidelines that call for reduction of setbacks in excess of those permitted in sub-section (1), the planning director can approve reductions upon finding substantial conformance with recommendations from the guidelines and compliance with the criteria from sub-section (1) above.

(3) Appeals. In the event the planning director disapproves plans of this section or recommends conditions or modifications which are unacceptable to the applicant, the applicant may appeal the decision to the development review committee who shall forward a recommendation to the planning commission.

(Ord. No. 31A-88, § 20-LB.5, 4-8-85; Ord. No. 31A-187, 3-23-99; Ord. No. 31A-261, 1-10-12)

## **LB, Limited Business**

### **Sec. 24-375. - Building coverage limits.**

Building coverage shall not exceed 30 60 percent of the total lot area. The floor area ratio shall not exceed 40 percent of the total lot area.

(Ord. No. 31A-187, 3-23-99; Ord. No. 31A-261, 1-10-12)

## **B-1, General Business**

### **Sec. 24-397. - Building coverage limits.**

Building coverage shall not exceed 30 60 percent of the total lot area. and the floor area ratio shall not exceed 60 percent.

(Ord. No. 31A-180, 9-8-98; Ord. No. 31A-262, 1-10-12)

**ITEM SUMMARY**

DATE: 4/14/2016

TO: The Policy Committee

FROM: Jose-Ricardo L. Ribeiro, Senior Planner II

SUBJECT: Proposed Subdivision Ordinance Revisions to Final Plan Submittal Requirements and Monuments

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**ATTACHMENTS:**

	Description	Type
▣	Staff Report	Staff Report
▣	Section 19-29 of the Subdivision Ordinance	Ordinance
▣	Section 19-36 of the Subdivision Ordinance	Ordinance
▣	Draft Subdivision Ordinance Amendments	Ordinance

**REVIEWERS:**

Department	Reviewer	Action	Date
Policy	Rosario, Tammy	Approved	4/8/2016 - 9:47 AM
Policy	Holt, Paul	Approved	4/8/2016 - 9:56 AM
Publication Management	Boles, Amy	Approved	4/8/2016 - 9:59 AM
Policy Secretary	Secretary, Policy	Approved	4/8/2016 - 11:52 AM

## MEMORANDUM

DATE: April 14, 2016  
TO: Policy Committee  
FROM: Jose Ribeiro, Senior Planner II  
SUBJECT: Subdivision Ordinance Revision to Final Plan Submittal Requirements and Monuments

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Staff is currently revising certain sections and chapters of the County Code as part of the Planning Division's 2015-2016 work program in order to ensure that information is updated, consistent and continues to provide flexibility in the development review process. The attached ordinances continues the process by amending Section 19-29, Final Plan-submittal requirements and Section 19-36, Monuments-general monuments.

In 2012 Sections 19-29 and 19-36 of the Subdivision Ordinance were amended in order to clarify the current language about monuments and to improve enforcement. Section 19-29 requires a note to be included on plats stating that all surveyor's monuments must be set in accordance with County Code and that a monument certification must be provided prior to final release of surety for a subdivision (Attachment No. 1). Section 19-36 establishes general requirements for monuments and also requires provision of a monument certification (Attachment No. 2). These amendments were based on York County's Code, Section 20.5-78. Survey monuments.

Since adoption of these amendments, a process to implement the certification of monuments has not been established in the County; however, upon further research staff concluded that it would be more appropriate to remove the certification requirement language from the County Code than to develop a dedicated process for certification. Regarding surveying monuments, the Code of Virginia only requires that monuments of specific types be installed to establish street and property lines (§15.2-2241). Furthermore, surveyors are governed by other provisions of licensures and are held by stringent professional standards set by the Code of Virginia (18VAC10-20-370). In order to clarify and to eliminate unnecessary requirements, the proposed ordinance amendments (Attachment No. 3) eliminate the language requiring the provision of monument certification within six months of plat approval.

Staff recommends that the Policy Committee recommend approval of the proposed subdivision ordinance amendments to the Planning Commission for its consideration in June 2016.

JR/nb  
Monumentation-mem

Attachments:

1. Section 19-29 of the Subdivision Ordinance
2. Section 19-36 of the Subdivision Ordinance
3. Draft Subdivision Ordinance Amendments

## **Sec. 19-29. - Final plan-submittal requirements.**

The final plan for a subdivision shall be on blue-line or black-line print. The scale shall be 100 feet to the inch except in cases where the agent approves an alternate scale. The size of the record plat portion of the final plan shall not be smaller than 8 <sup>1/2</sup>" x 11" or larger than 18" x 24" inches. If more than one sheet is used, sheets shall be numbered in sequence and an index shall be provided. In addition to the requirements of the preliminary plan, the final plan for a subdivision shall meet the requirements of 17VAC15-60 et seq. and shall include the following:

(n) The plat shall include the following note:

"Monuments shall be set in accordance with sections [19-34](#) through [19-36](#) of the county code. Subsequent to completion of all improvements, but prior to final release of surety for a subdivision or any part thereof, the subdivider shall provide to the agent a surveyor's certificate that the monuments as shown on the record plat have been installed, were properly set, are properly aligned, and are undamaged. The provision of the certification shall be within six months of plat approval, unless otherwise arranged in advance, in writing, with the agent."

## **Sec. 19-36. - Monuments-general requirements.**

The subdivider shall be responsible for replacing any monument which is damaged, disturbed or destroyed during construction. All monuments disturbed or destroyed shall be reset by a surveyor licensed in the Commonwealth of Virginia. Subsequent to completion of all improvements, but prior to final release of surety for a subdivision or any part thereof, the subdivider shall provide to the agent a surveyor's certification that the monuments as shown on the record plat have been installed, were properly set, are properly aligned, and are undamaged. The provision of the certification shall be within six months of plat approval, unless otherwise arranged in advance, in writing, with the agent.

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**ITEM SUMMARY**

DATE: 4/14/2016  
TO: The Policy Committee  
FROM: Ellen Cook, Senior Planner II; Savannah Pietrowski, Planner  
SUBJECT: Proposed Zoning Ordinance Revisions to Mixed Use

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**ATTACHMENTS:**

	Description	Type
▣	Staff Report	Staff Report
▣	Existing Mixed Use Ordinance	Backup Material
▣	Existing Landscape Ordinance	Backup Material

**REVIEWERS:**

Department	Reviewer	Action	Date
Policy	Rosario, Tammy	Approved	4/8/2016 - 11:16 AM
Policy	Holt, Paul	Approved	4/8/2016 - 11:21 AM
Publication Management	Boles, Amy	Approved	4/8/2016 - 11:23 AM
Policy Secretary	Secretary, Policy	Approved	4/8/2016 - 11:52 AM

## MEMORANDUM

DATE: April 14, 2016

TO: The Policy Committee

FROM: Ellen Cook, Senior Planner II  
Savannah Pietrowski, Planner I

SUBJECT: Zoning Ordinance Revisions to Mixed Use

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### **Background**

Over the past year several development scenarios have come to staff's attention where it may be warranted to provide additional flexibility in various sections of the Mixed Use district. These circumstances have involved interest in:

1. Development of mixed use structures (i.e., "vertical mixed use") or mixed use development on parcels or groups of parcels less than five acres total.
2. Mixed use development in an infill or redevelopment context.

Possible changes to the Mixed Use district to address both of these circumstances could help allow the most efficient use of the land and provide flexibility in design and land uses as specified in the Mixed Use Comprehensive Plan Land Use Designation Description.

The 2035 Comprehensive Plan lends support to these possible ordinance amendments through goals, strategies and actions in the Land Use section. LU 4.5 states that the County should "promote infill, redevelopment revitalization and rehabilitation within the Primary Service Area (PSA)," and LU 4.5.2 suggests "revisions to the Zoning Ordinance and/or Subdivision Ordinance or the development of guidelines to provide additional flexibility, clear standards or incentives..." LU 4.6 states that the County should also "encourage developments which provide mixed use development, as further defined in the Mixed Use Land Use Designation and Development Standards, within the PSA. Support design flexibility to promote mixing of various types of residential and non-residential uses and structures."

Updating the Zoning Ordinance to address the two circumstances listed above was proposed as part of the Planning Division's 2015-2016 work program at the October 2015 Policy Committee meeting. Staff is proposing to evaluate this item in a multiple stage process similar to review of ordinance amendments proposed after adoption of the 2009 Comprehensive Plan. In Stage I (the subject of this staff memorandum), staff will identify issues and possible directions for the proposed amendment. Later, in Stage II, staff will provide the Policy Committee with a proposed draft ordinance for discussion. Lastly, in Stage III, staff will draft the final ordinance accounting for any Policy Committee comments.

These revisions may also provide the opportunity to explore alternative formatting options for the Zoning Ordinance. Based on review of other localities' ordinances, staff may be recommending approaches make the information more visually engaging and easier to understand.

### **Discussion Items**

1. *Size of District:* In Section 24-517, Minimum area of districts, the current code states: “Mixed Use districts shall be located on a single parcel of land, or separate but adjacent parcels, which shall total not less than five acres. Mixed Use districts may be located on a parcel of less than five acres provided that the purpose of the district is to provide for the development of a mixed use structure or mixed use structures within an area designated Mixed Use in the Comprehensive Plan.”

In order to accommodate a wider range of requests, this language could be modified one of several ways:

- The change that would allow the greatest flexibility would be to delete this section entirely, which would then allow a parcel of any size to be rezoned to Mixed Use, provided that the master plan demonstrated that the proposal could meet all Mixed Use district requirements and the requirements of other sections of the Zoning Ordinance (parking, etc.) and demonstrated consistency with the Comprehensive Plan.
- Alternatively, the section could continue to require five acres as a baseline, but add flexibility into the second sentence for exceptions.
  - o In this option, one way to add flexibility would be to expand the possible land use designation areas where a rezoning to Mixed Use of less than five acres could occur. For example, the list could include areas designated Neighborhood Community and Community Commercial. Should this be the preferred approach, staff could potentially add standards for a minimum percentage of non-residential floor area if a development were in either of these two designations, either in this section or a separate section.
  - o A second way to add flexibility would be to not specify that the structures in a development of less than five acres be actual mixed use structures (vertical mixed use), but instead allow some all-residential and some all-commercial structures as long as there was an overall mix (horizontal mixed use) which is what is currently allowed now for developments over five acres. Staff would no longer see the five-acre standard as a necessary trigger for only mixed use structures.

*Recommendation:* Staff recommends that this section be deleted entirely, and that any standards the Committee thinks are appropriate be added elsewhere in the Mixed Use district, where needed.

2. *Required Use Mix:* In Section 24-519, Density, the current code states, “To achieve the intent of a mixed use development, no single use or use category shall exceed 80% of the developable land area within a mixed use area, as delineated on the master plan.”

Since amendments to the ordinance to provide more flexibility for smaller sites could potentially increase the number of proposals that include vertical mixed use structures, it may be helpful to clarify how this requirement applies to master plans that are comprised of, or include, vertical mixed use structures.

In addition, in relation to the discussion in Item No.1 above, another possible ordinance amendment to consider for this section may be setting a minimum percentage of non-residential area for mixed use proposals that are within Neighborhood or Community Commercial designations on the Comprehensive Plan Land Use Map. This could establish a guideline in the Mixed Use district to complement the Comprehensive Plan designation description language for these designations.

*Recommendation:* Staff recommends adding clarifying information in the ordinance text on how the “mix of uses” calculation can be addressed for vertical mixed use structures. Staff also welcomes feedback on the concept of establishing a minimum percentage of non-residential area for proposals within Neighborhood and Community Commercial designations.

3. *Open Space:* In Section 24-520, Open Space, the current code states, “Development within the Mixed Use districts shall provide usable open space area. The amount of open space shall be not less than 10% of the developable area of the site. Nondevelopable area shall not be counted toward meeting the open space requirement. For the purposes of this article, open space does not include any landscape area in parking lots *or adjacent to structures.*”

It may be reasonable to consider counting a landscaped plaza or open area adjacent to a structure toward the open space requirement, which would have particular aesthetic benefits or utility for a smaller site or a vertical mixed use structure.

*Recommendation:* Strike the second part of the sentence “or adjacent to structures.”

4. *Setback and buffer requirements:* In Section 24-523, Setback and Buffer requirements, the current code provides for:
  - A structural setback of 50 feet from any external existing or planned public road right-of-way, or any internal arterial road right-of-way (or a setback of 75 feet from the centerline if the rights-of-way of these roads is less than 50 feet).
  - A 50-foot buffer around the perimeter of the Mixed Use district, which shall be left in its natural undisturbed state and/or planted with additional landscaping “such that the setback serves to minimize the visual intrusion and other negative impacts of new development or redevelopment on adjacent development.”

This section does go on to provide a process by which these setbacks can be reduced, with a set of criteria for areas designated Mixed Use on the Comprehensive Plan, and those criteria plus additional standards if any area is designated as something other than Mixed Use (the full text is include as Attachment No. 1).

For the right-of-way setback, implementation over the years has sometimes been complicated, as there are also requirements in the Landscape Ordinance for a landscape area adjacent to road rights-of-way, and a set of criteria for reductions (see Section 24-98 in Attachment No. 2). To reduce the number of regulations pertaining to this area of a site, one option would be to eliminate the structural setback in the Mixed Use district, and simply state that a landscape area shall be provided along the right-of-way in accordance with Section 24-98.

For the perimeter setback, complications over the years have arisen for applications that are proposed as logical components of an adjacent development, where there is no practical way to provide a 50-foot strip of greenspace between two development areas and there is no real impact-based reason to do so. The uniform 50-foot standard also presents a challenge on smaller sites as the proportion of the site that is dedicated to meeting the requirement increases. To address this, the perimeter buffer requirements could be tiered to try to better match any buffering requirements to the existing adjacent uses and the proposed use designation on the mixed use development’s master plan.

*Recommendation:* Staff recommends eliminating the structural setback from the right-of-way, to be replaced by a statement regarding compliance with Section 24-98. Staff also recommends revisiting the perimeter buffer standards, with staff preparing a set of draft standards as a component of the draft ordinance.

**Recommendation**

Staff looks forward to the Committee's input on these discussion items and recommendations prior to moving forward with a draft ordinance in Stage II of this process.

EC/SP/nb

ZOMixedUseR-mem

**Attachments:**

1. Existing Mixed Use District
2. Existing Landscape Ordinance

DIVISION 15. - MIXED USE, MU

Sec. 24-514. - Statement of intent.

- (a) The purpose of the mixed use district is to promote a broad spectrum of land uses in more intensive developments on lands designated mixed use by the Comprehensive Plan. The Mixed Use District, MU, is designed to:
  - (1) Promote a multiuse master-planned community which may include residential, commercial, industrial (with a focus on light industrial), office and other nonresidential uses;
  - (2) Provide flexibility, unity and diversity in land planning and development resulting in convenient and harmonious groupings of uses, structures and common facilities; varied type, design and layout of residential, employment and social centers; and appropriate relationships of open spaces to intended uses and structures which include attractive and usable open space linked by pedestrian walkways and/or bicycle paths;
  - (3) Reduce commuter driving demands on highways and roads by concentrating employment, housing and recreation opportunities in locations served by, or convenient to, public transportation; and
  - (4) Permit densities and intensities of development in excess of those normally permitted in customary residential and commercial zoning districts.
- (b) This shall be accomplished by providing for the development and/or redevelopment of a variety of land uses and structures within the Mixed Use District, MU, in accordance with the uses generally described in the Comprehensive Plan for areas designated mixed use. The Mixed Use District, MU, is the preferred zoning district for development within those areas designated mixed use in the Comprehensive Plan.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-184, 12-8-98; Ord. No 31A-276, 9-11-12)

Sec. 24-515. - Documents required for submission.

- (a) Required documents. The applicant shall submit documents in accordance with section 24-23 to the planning director prior to any rezoning or special use permit application consideration by the planning commission.
  - (1) Where applicable, the master plan shall contain a table which shows, for each section or area of different uses, the following:
    - a. The use;
    - b. Construction phasing;
    - c. Maximum number of dwelling units and density for residential areas;
    - d. Maximum square feet of floor space for commercial, office or industrial areas;
    - e. Maximum square feet of floor space and percentage mix of floor space of each use for those structures containing a mixture of uses; and
    - f. Maximum acreage of each use.

The master plan shall depict and bind the approximate boundaries and general location of all principal land uses, structure square footage, number of dwelling units and densities, roads, rights-of-way, accesses, open spaces, public uses and other features located or to be located on the site. Upon approval by the board of supervisors, the master plan shall become binding. Thereafter, all amendments

to the master plan shall be in accordance with section 24-13 of this chapter. Approved development plans, provided for in section 24-516, shall supersede the master plan and conceptual or schematic plans.

- (2) Construction phasing. A project build-out schedule shall be submitted for review by the planning director, the planning commission and board of supervisors, in accordance with construction phasing guidelines adopted by the board of supervisors. The purpose of such phasing plan shall be to provide assurance to the board of supervisors that infrastructure improvements will be constructed in order to support the development intensities proposed. The project build-out schedule shall also provide assurances that the development will include both the proposed non-residential and residential elements at certain project milestones and/or at build-out.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-276, 9-11-12; Ord. No. 31A-291, 8-13-13)

Sec. 24-516. - Development plans.

- (a) Development plans shall be submitted and reviewed in accordance with article III of this chapter or with the county's subdivision ordinance, whichever is applicable. Development plans may be submitted for review after approval of a master plan by the board of supervisors. All development plans shall be consistent with the master plan. Development plans may deviate from the master plan if the planning director concludes that the plan does not significantly alter the character of land uses or other features or conflict with any conditions placed on the approval of rezoning. A conceptual plan may be submitted for this purpose in a form sufficient to illustrate the proposed deviations. If the planning director determines that a proposed change would significantly deviate from the approved master plan, the applicant may submit alternative proposed development plans or proceed with amendment of a master plan in accordance with section 24-13.
- (b) Appeals. In the event the planning director disapproves the items specified in section 24-516 (a) or recommends conditions or modifications that are unacceptable to the applicant, the applicant may appeal the decision of the planning director to the development review committee which shall forward a recommendation to the planning commission.
- (c) Documentation satisfactory to the county attorney for the maintenance of common open space, recreation areas, sidewalks, parking, private streets and other privately owned but common facilities serving the project shall be submitted as part of any application for development plan review.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-276, 9-11-12)

Sec. 24-517. - Minimum area of districts.

Mixed use districts shall be located on a single parcel of land, or separate but adjacent parcels, which shall total not less than five acres. Mixed use districts may be located on a parcel of less than five acres provided that the purpose of the district is to provide for the development of a mixed use structure or mixed use structures within an area designated mixed use in the Comprehensive Plan.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-276, 9-11-12)

Sec. 24-518. - Use list.

In the mixed use districts, all structures to be erected or land to be used shall be for one or more of the following uses:

Use	Use List	Permitted	Specially
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Category		Uses	Permitted Uses
Residential Uses	Accessory apartments, attached, in accordance with section 24-32	P	
	Accessory structures, as defined in section 24-2	P	
	Apartments	P	
	Group homes or residential facilities, for eight or fewer adults	P	
	Group homes or residential facilities, for nine or more adults		SUP
	Group quarters	P	
	Home care facilities	P	
	Home occupations, as defined	P	
	Independent living facilities	P	
	Multi-family dwellings up to and including four dwelling units	P	
	Multi-family dwellings more than four dwelling units	P	
	Single-family dwellings	P	
Commercial Uses	Accessory structures, as defined in section 24-2	P	
	Adult day care centers	P	
	Antique shops	P	
	Arts and crafts shops	P	
	Assisted living facilities	P	

	Automobile rental	P	
	Automobile repair and service including tire, transmission, glass, body and fender, and other automotive products sales (new and/or rebuilt) and service with major repair under cover and storage of parts and vehicle storage screened from adjacent property by landscaping and fencing	P	
	Automobile service stations; if fuel is sold, then in accordance with section 24-38	P	
	Banks and other similar financial institutions	P	
	Barber and beauty shops	P	
	Business, professional and governmental offices	P	
	Campgrounds		SUP
	Child day care centers	P	
	Community recreation facilities, public or private, including parks, playgrounds, clubhouses, boating facilities, swimming pools, ball fields, tennis courts and other similar recreation facilities	P	
	Continuing care retirement facilities	P	
	Contractor offices, equipment storage yards, shops and warehouses with storage under cover or screened with landscaping and fencing from adjacent property	P	
	Convenience stores; if fuel is sold, then in accordance with section 24-38	P	
	Data processing centers	P	
	Drug stores	P	
	Dry cleaners and laundries	P	

	Employment services or agencies	P	
	Farmer's markets	P	
	Fast food restaurants		SUP
	Feed, seed and farm supply stores	P	
	Fish farming	P	
	Flea markets		SUP
	Funeral homes, cemeteries and memorial gardens	P	
	Gift stores	P	
	Golf courses		SUP
	Greenhouses and nurseries	P	
	Handicrafts stores	P	
	Health clubs, exercise clubs and fitness centers	P	
	Home occupations as defined	P	
	Hotels, motels, tourist homes and convention centers	P	
	Indoor sport facilities	P	
	Indoor theaters	P	
	Janitorial service establishments	P	
	Limousine service	P	
	Lumber and building supply with storage limited to a fully enclosed building or screened with landscaping and fencing from adjacent property	P	

	Marinas, docks, piers, yacht clubs, boat basins, boat storage and servicing, repair and sale facilities for the same; if fuel is sold, then in accordance with section 24-38		SUP
	Marine or waterfront businesses to include the receipt, storage and transshipment of waterborne commerce, or seafood receiving, packing or distribution under cover or screened with landscaping and fencing from adjacent property		SUP
	Medical offices	P	
	Museums		SUP
	Off-street parking as required by article II, division 2 of this chapter	P	
	Office supply stores, secretarial and duplicating services	P	
	Parking lots and garages	P	
	Photographer, picture, artist and sculptor stores and studios	P	
	Plumbing and electrical supply with storage limited to a fully enclosed building or screened with landscaping and fencing from adjacent property	P	
	Printing and publishing establishments	P	
	Property maintenance facilities, sheds or garages	P	
	Public billiard parlors, arcades, pool rooms, bowling alleys, dance halls and other indoor centers of amusement	P	
	Rental of more than three rooms in a single-family dwelling unit		SUP
	Rental of rooms to a maximum of three rooms	P	
	Restaurants, tea rooms and taverns	P	

	Retail and service stores, including the following stores: books, cabinet, candy, carpet, coin, department, dressmaking, florist, furniture, furrier, garden supply, greeting card, gunsmith (excluding shooting ranges), hardware, home appliance sales and service, ice cream, jewelry sales and service, locksmith, music and records, paint, pet, picture framing, plant supply, shoe, sporting goods, stamp, tailor, tobacco and pipes, toys, travel bureau, upholstery, wearing apparel, and yard goods	P	
	Retail food stores, bakeries and fish markets	P	
	Security service offices	P	
	Shooting ranges, indoor		SUP
	Skilled nursing facilities (nursing homes)	P	
	Taxi services	P	
	Theme parks		SUP
	Truck stops; if fuel is sold, then in accordance with section 24-38		SUP
	Truck terminals; if fuel is sold, then in accordance with section 24-38		SUP
	Vehicle and trailer sales and service (with major repair limited to a fully enclosed building)	P	
	Veterinary hospitals	P	
Agricultural Uses	Wineries		SUP
Civic Uses	Fire stations	P	
	Libraries	P	
	Nonemergency medical transport	P	

	Places of public assembly	P	
	Post offices	P	
	Schools	P	
Utility Uses	Camouflaged wireless communications facilities that comply with division 6, Wireless Communication Facilities	P	
	Electrical generation facilities, public or private, electrical substations with a capacity of 5,000 kilovolt amperes or more and electrical transmission lines capable of transmitting 69 kilovolts or more		SUP
	Radio stations, television stations, transmission relay stations and communication towers		SUP
	Telephone exchanges and telephone switching stations	P	
	Tower mounted wireless communication facilities in accordance with division 6, Wireless Communications Facilities		SUP
	Transmission pipelines (public or private), including pumping stations and accessory storage, for natural gas, propane gas, petroleum products, chemicals, slurry coal and any other gases, liquids or solids. However, extensions for private connections to existing pipelines, which are intended to serve an individual residential or commercial customer and which are accessory to existing or proposed development, are permitted generally and shall not require a special use permit		SUP
	Water facilities (public or private), and sewer facilities (public), including, but not limited to, treatment plants, pumping stations, storage facilities and transmission mains, wells and associated equipment such as pumps to be owned and operated by political jurisdictions. However, the following are permitted generally and shall not require a special use permit:		SUP
	(a) Private connections to existing mains that are intended to serve an individual customer and that are accessory to existing		

	or proposed development, with no additional connections to be made to the line; and		
	(b) Distribution lines and local facilities within a development, including pump stations		
	Water impoundments, new or expansion of	P	
	Wireless communications facilities that utilize alternative mounting structures and comply with division 6, Wireless Communications Facilities	P	
Open Uses	Timbering in accordance with section 24-43	P	
Industrial Uses	Food processing and storage, but not the slaughter of animals	P	
	Heavy equipment sales and service, with major repair under cover or screened with landscaping and fencing from adjacent property	P	
	Heliports, helistops and accessory uses		SUP
	Hospitals and mental health facilities	P	
	Industrial and technical training schools	P	
	Machinery sales and service with major repair under cover	P	
	Manufacture and assembly of musical instruments, toys, novelties and rubber and metal stamps	P	
	Manufacture and bottling of soft drinks and wine	P	
	Manufacture and processing of textiles and textile products in structures of not more than 5,000 square feet	P	
	Manufacture, compounding, assembly or treatment of products made from previously prepared paper, plastic, metal, textiles, tobacco, wood, paint, fiber glass, glass, rubber, leather,	P	

	cellophane, canvas, felt, fur, horn, wax, hair and yarn in structures of not more than 5,000 square feet		
	Manufacture, compounding, assembly or treatment of products made from previously prepared paper, plastic, metal, textiles, tobacco, wood, paint, fiber glass, glass, rubber, leather, cellophane, canvas, felt, fur, horn, wax, hair and yarn in structures of 5,000 square feet and greater		SUP
	Manufacture, compounding, processing or packaging of cosmetic, toiletry and pharmaceutical products	P	
	Manufacture of carpets and carpet yarns in structures of not more than 5,000 square feet	P	
	Manufacture of pottery and ceramic products, using kilns fired only by gas or electricity	P	
	Manufacture or assembly of appliances, tools, firearms, hardware products and heating, cooling or ventilating equipment	P	
	Manufacture or assembly of electronic instruments, electronic devices or electronic components	P	
	Manufacture or assembly of medical, drafting, metering, marine, photographic and mechanical instruments	P	
	Petroleum storage		SUP
	Private streets within "qualifying industrial parks" in accordance with section 24-55	P	
	Processing, assembly and manufacture of light industrial products or components, with all storage, processing, assembly and manufacture conducted indoors and under cover, with no dust, noise, odor or other objectionable effect	P	
	Publicly owned solid waste container sites		SUP

	Railroad facilities including tracks, bridges and stations. However, spur lines which are to serve and are accessory to existing or proposed development adjacent to existing railroad rights-of-way and track and safety improvements in existing railroad rights-of-way are permitted generally and shall not require a special use permit		SUP
	Research, development and design facilities or laboratories	P	
	Resource recovery facilities		SUP
	Solid waste transfer stations		SUP
	Warehouse, storage and distribution centers with storage under cover or screened with landscaping and fencing from adjacent property	P	
	Water well drilling establishments		SUP
	Welding and machine shops with storage limited to a fully enclosed building or screened with landscaping and fencing from adjacent property	P	

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-150, 4-5-93; Ord. No. 31A-152, 8-16-93; Ord. No. 31A-167, 3-26-96; Ord. No. 31A-176, 5-26-98; Ord. No. 31A-184, 12-8-98; Ord. No. 31A-242, 7-14-09; Ord. No. 31A-276, 9-11-12; Ord. No. 31A-291, 8-13-13; Ord. No. 31A-293, 8-12-14)

Sec. 24-519. - Density.

- (a) The number of dwelling units which may be constructed in any residential or mixed use-residential area designation as indicated on the master plan shall be determined by the number of gross acres at the site and the use proposed. The maximum densities of dwelling units per acre which may be constructed are:

Area Designation	Dwelling Type	Base Gross Density (Dwelling Units Per Acre)	Maximum Gross Density with density bonus (see table under section 24-519 (c))
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A	Single-family structures	3	6
B	Multi-family dwellings containing up to four dwelling units	5	10
C	Multi-family dwellings containing more than four dwelling units	6	12
D	Apartments	9	18

(b) The density of a proposed development shall be calculated as the number of units divided by the gross acreage. For the purposes of this section, the gross acreage shall be calculated as follows:

Percent non-developable land	Percent of gross acreage added to the developable land
0-20 percent	Use total parcel acreage
21-40 percent	20
41-70 percent	15
71-100 percent	10

#### Illustration of Gross Acreage Calculation

- (a) If a 50 acre parcel has seven acres of non-developable land, then the non-developable area of the site is 14 percent. Since 14 percent is less than 20 percent, the total area of the parcel is used to calculate allowed density.
- (b) If the 50 acre parcel instead had 14 acres of non-developable land, then the non-developable area of the site is 28 percent. Since 28 percent is between 21 percent and 40 percent, the total developable area of the parcel (36 acres) and 20 percent of the total parcel acreage (ten acres) are added together to obtain the total acreage used to calculate allowed density (46 acres).

In this example, if an applicant sought a density of two dwelling units per acre, they would yield a maximum of 100 units in (a) and 92 units in (b).

- (c) In addition to the base density standards from section 24-519 (a) a density bonus can be achieved with the provision of options as detailed below. In order to achieve the densities listed below, the developer shall make assurances in a master plan or otherwise for the density bonus items.

Bonus increase from base density	Required density bonus points from list below
Up to the base density	0
Greater than the base density, up to and including 33 percent above the base density	2
Greater than 33 percent above the base density, up to and including 66 percent above the base density	4
Greater than 66 percent above the base density, up to and including 100 percent above the base density	6

	Bonus Item Options	Bonus Points
A.	For every 10 percent of the units committed to provision of affordable and workforce housing (starting above the threshold set in the county's housing opportunities policy).	2, up to a max of 4
B.	Designing a stormwater management plan that meets Chesapeake Bay Preservation Ordinance standards and requirements through extensive use of better site design/low impact development techniques, as approved by the engineering and resource protection division.	1.5
C.	Undertaking or funding a stream restoration project or stormwater management facility retrofit within the same sub-watershed, as identified by an approved watershed management plan or by the engineering and resource protection division.	1.5
D.	Achieving green building certification using EarthCraft, LEED or equivalent program for all units	1
E.	Dedicating to the county a public use site, the developable portion of which is suitable for a public facility, as determined by the county administrator or designee.	1
F.	Constructing a greenway trail and dedicating a public use easement in a location indicated	1

	by the approved Greenway Master Plan, the Virginia Outdoors Plan, or such other useful and logical location as approved by the parks and recreation director or designee.	
G.	Preserving a single area of healthy, mature, mixed hardwood forestland at least two acres in size, within the developable portion of the site. The planning director may request that the developer provide confirmation, prepared by a certified horticulturalist, that these qualities are present.	1
H.	Preserving one of the following underlined environmentally-related conservation features. The underlined item must constitute at least 5 percent of the developable area of the site.	1
	1. 100 foot buffers around non-RPA wetland features (isolated wetlands), intermittent streams, or from floodplain zones A or AE (where not already part of the RPA), or from the edge of the RPA buffer	
	2. Soils in hydrologic groups A and B, as defined by the USDA, and as verified on-site by a licensed geotechnical engineer (retain at least 50 percent of these soils on site)	
	3. Conservation area as identified by an approved watershed management plan	
	4. Wildlife habitat corridors that: <ul style="list-style-type: none"> <li>• Protect a corridor at least 100 feet in width from one protected area (on or off the development property) to another protected area, and</li> <li>• Consist of mature forestland</li> </ul>	
I.	Providing pedestrian accommodations on one side of all internal roadways, where this would exceed the requirements set forth in section 24-35 of this chapter.	1
J.	Developing binding design guidelines for the development that include superior architectural and design standards. Elements that the guidelines shall address include, but need not be limited to, provision of rear or side loading garages; use of universal design concepts; and attention to the quality of, and variation in, elements of the units such as facade materials and colors; windows, roof pitches, porches and entryways; and heights and setbacks from the right-of-way. Design guidelines shall be submitted concurrent with the master plan, and shall be reviewed and approved by the planning director.	0.5
K.	Providing a 100-foot buffer from the internal edge of a right-of-way buffer and/or perimeter buffer (must constitute at least five percent of the developable area of the site).	0.5

L.	Preserving and rehabilitating an on-site structure identified in the document entitled Historical Structures Survey, prepared by Virginia Department of Historic Resources, and dated May 2008. The structure may be re-used as a community clubhouse or private residence with appropriate deed restrictions. If the proposed cluster is within a community character area (CCA) designated by the comprehensive plan, this bonus would also be available for rehabilitation and legal preservation of a structure elsewhere within that CCA.	0.5
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(d) To achieve the intent of a mixed use development, no single use or use category shall exceed 80 percent of the developable land area within a mixed use area, as delineated on the master plan.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-276, 9-11-12; Ord. No. 31A-278, 11-27-12)

Sec. 24-520. - Open space.

Development within the mixed use districts shall provide usable open space area. The amount of open space shall be not less than ten percent of the developable area of the site. Nondevelopable area shall not be counted towards meeting the open space requirement. For the purposes of this article, open space does not include any landscape area in parking lots or adjacent to structures. The requirements of this section shall supplement the requirements of the county's Chesapeake Bay Preservation Ordinance, article II, division 4 of this chapter (Landscaping and tree preservation requirements) and other county requirements relating to open space. For the purposes of this article, open space may include, but is not limited to:

- (1) Perpetual easement(s) of no less than 50 feet in width dedicated to James City County or another group approved by the county adjoining any road designated as a Community Character Corridor on the Comprehensive Plan.
- (2) Buffer area(s) of no less than 50 feet around an RMA wetland as measured from the landward edge of the wetland.
- (3) Preservation of any archaeological site, any landmark registered in the Virginia Landmarks Register, the National Register of Historic Places or National Historic Site register.
- (4) Preservation of any developable area onsite that is set aside to meet the county's natural resource policy where preservation of such area is not required by other local, state or federal law.
- (5) Bikeways, bike paths, hiking trails, greenways or other similar amenity, excluding sidewalks.
- (6) Public or private picnic areas, parks, plazas or other gathering areas.
- (7) Public or private community facilities such as swimming pools, tennis courts, and recreation buildings. Golf courses may also be counted as open space for the purpose of meeting the open space requirement to a maximum of 60 percent of the required open space.

Open space area shall be protected by easements, maintenance agreements and/or other assurances satisfactory to the county attorney.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-276, 9-11-12)

Sec. 24-521. - Height of structures.

- (a) Structures may be erected up to 60 feet in height from grade to the top of the structure, including all church spires, belfries, cupolas, athletic field lighting, monuments, flagpoles, penthouse, electrical, plumbing, elevator, water tank or other accessory functions which are part of the structure and accessory and nonaccessory wireless communications facilities that utilize alternative mounting structures in accordance with division 6, Wireless Communications Facilities.
- (b) A structure in excess of 60 feet in height but not in excess of 100 feet from grade to the top of the structure, including all church spires, belfries, cupolas, athletic field lighting, monuments, flagpoles, penthouse, electrical, plumbing, elevator, water tank, radio, television and microwave antennas, and towers or other accessory functions, and accessory and nonaccessory wireless communications facilities that utilize alternative mounting structures in accordance with division 6, Wireless Communications Facilities in excess of 60 feet in height but not in excess of the maximum approved height of the structure to which it is mounted, may be erected only upon the granting of a height limitation waiver by the board of supervisors.
- (c) Upon application for a height limitation waiver, the payment of appropriate fees, notification of adjacent property owners and following a public hearing, the board of supervisors may grant a height limitation waiver upon finding that:
  - (1) Such structure is in accordance with the uses, densities, design and traffic analysis shown on the original master plan;
  - (2) Such structure will not obstruct light from adjacent property;
  - (3) Such structure will not impair the enjoyment of historic attractions and areas of significant historic interest and surrounding developments;
  - (4) Such structure will not impair property values in the surrounding area;
  - (5) Such structure is adequately designed and served from the standpoint of safety and the county fire chief finds that the fire safety equipment to be installed is adequately designed and that the structure is reasonably well located in relation to fire stations and equipment, to offer adequate protection to life and property; and
  - (6) Such structure would not be contrary to the public health, safety or general welfare.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-166, 1-23-96; Ord. No. 31A-176, 5-26-98; Ord. No. 31A-223, 4-11-06; Ord. No. 31A-232, 12-11-07; Ord. No. 31A-276, 9-11-12)

Sec. 24-522. - Requirements for improvements and design.

- (a) Complementary design. Mixed-use districts are intended to have an integrated character with strong unifying design elements and therefore shall meet the following standards:
  - (1) Unified building design. Building design should be coordinated with regard to color, materials, architectural form and detailing to achieve design harmony, continuity, and horizontal and vertical relief and interest.  
  
Development shall focus on pedestrian-scaled design, mixing uses within buildings, and general design standards (such as landscaping, road design, etc.).
  - (2) Unified open space. Projects shall include a unifying internal system of pedestrian-oriented paths, open spaces and walkways that function to organize and connect buildings, and provide connections to common origins and destinations (such as transit stops, restaurants, child care facilities and convenience shopping centers). All buildings or building clusters within the development must be connected with linkages other than roads (i.e., sidewalks, bikeways or

multi-use paths). The master plan shall utilize open space and natural features that serve as buffers and transitions to adjacent area(s). See section 24-520 for more details on open space.

- (b) Water and sewer. All structures and uses within a mixed use districts shall be served by publicly owned and operated water and sewer systems.
- (c) Recreation areas. Residential areas and mixed use structures and areas designated on the master plan shall be provided with a recreation area or areas adequate to meet the needs of the residents. The developer shall provide and install playground equipment, playfields, tennis courts or other recreation facilities in accordance with the guarantees established as part of master plan or final development plan approval. The composition of the facilities to be installed shall be approved by the planning director. Such facilities shall be owned and maintained by the developer or a residents' association.
- (d) Parking. Off-street parking facilities shall be provided in accordance with the off-street parking requirements of article II, division 2 of this chapter.
- (e) Outdoor lighting. Outdoor lighting shall be provided as required by article II, division 7 of this chapter and the county subdivision ordinance.
- (f) Natural features and amenities. Existing features such as specimen trees, wildlife habitats, watercourses, historical sites and similar irreplaceable assets shall be shown on the master plan and site plan and preserved to the maximum extent possible.
- (g) Signs. All signs within a mixed use district shall comply with article II, division 3 of this chapter.
- (h) Traffic circulation. Vehicular access points and drives shall be designed to encourage smooth traffic flow with controlled turning movements and minimum hazards to vehicular and pedestrian traffic. Buildings, parking areas and drives shall be arranged in a manner that encourages pedestrian access and minimizes traffic movement. All streets shall be constructed and designed in accordance with section 24-524.
- (i) Landscaping. All landscaping and tree preservation shall be undertaken in accordance with article II, division 4 of this chapter and Chapter 23 of the county code, the Chesapeake Bay Preservation Ordinance.
- (j) Dwelling units, regardless of structure type, shall be clustered or otherwise grouped to maximize the preservation of open space and other aesthetic amenities consistent with the intent of article VI, division 1, Residential Cluster Development.
- (k) Pedestrian accommodation. Pedestrian accommodations shall be provided in accordance with Section 24-35.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-184, 12-8-98; Ord. No. 31A-205, 5-8-01; Ord. No. 31A-276, 9-11-12; Ord. No. 31A-291, 8-13-13)

Sec. 24-523. - Setback and buffer requirements.

- (a) Location of structures. Structures shall be set back 50 feet or more from any external existing or planned public road right-of-way, or any internal arterial road right-of-way, which is 50 feet or greater in width. Where the external existing or planned public road right-of-way or the internal arterial road right-of-way is less than 50 feet in width, structures shall be set back 75 feet or more from the centerline of the external existing or planned or internal arterial public road.
- (b) Required buffer from mixed use districts. For commercial, industrial, office, residential and mixed uses a buffer of 50 feet shall be maintained from the perimeter of a mixed use district. The buffer shall be left in its natural undisturbed state and/or planted with additional or new landscape trees, shrubs and other vegetative cover such that the setback serves to minimize the visual intrusion and other negative impacts of new development or redevelopment on adjacent development.

- (c) Setback and/or buffer modifications; criteria for determination. Reduction of the width of the setbacks and/or buffers specified in subsections (a) and (b) above may be approved for a mixed use zoning district that is designated mixed use by the Comprehensive Plan upon demonstration that the proposed setback and/or buffer, by substitution of technique or design, will achieve results which clearly satisfy the overall purposes and intent of the setback and/or buffer requirement of this section and the intent of section 24-86 (Landscaping and tree preservation requirements), shall have no additional adverse impact on adjacent properties or public areas, and will not result in detrimental impacts to the orderly development or character of the area, the environment, sound engineering or planning practice, or the goals, objectives, strategies and policies of the Comprehensive Plan. In addition, a request for a setback and/or buffer modification must meet one or more of the following criteria:
- (1) The proposed setback and/or buffer is for the purpose of integrating proposed mixed use development with adjacent development;
  - (2) The proposed setback and/or buffer substantially preserves, enhances, integrates and complements existing trees and topography;
  - (3) The proposed setback and/or buffer is due to unusual size, topography, shape or location of the property, existing structures or other unusual conditions, excluding the proprietary interests of the developer.

Reduction of the width of the setbacks and/or buffers may also be approved for a mixed use zoning district that is not designated mixed use by the Comprehensive Plan upon finding that the proposed setback and/or buffer meets one or more of the criteria listed above and both of the following additional criteria:

- (1) Properties adjacent to the properties being considered for a reduction in setback and/or buffer must be compatible;
  - (2) The proposed setback and/or buffer reduction has been evaluated by appropriate county, state or federal agencies and has been found to not adversely impact the public health, safety or welfare.
- (d) Requests for modifications. Requests for modifications pursuant to subsection (c) above shall be filed in writing with the planning director and shall identify the reasons for such requests together with the proposed alternative. The planning director shall approve, deny, or conditionally approve the request and shall include a written statement certifying that one or more of the above criteria are met.
- (e) Appeals. In the event the planning director disapproves the items specified in section 24-523 (d) or recommends conditions or modifications that are unacceptable to the applicant, the applicant may appeal the decision of the planning director to the development review committee which shall forward a recommendation to the planning commission.
- (f) No minimum lot size or yard requirements. Except for required setbacks and/or buffer specified in (a) and (b) above, there shall be no minimum lot size nor minimum front, side or rear yard requirements for any lot within a Mixed Use Development District, MU, other than as specified in approved final plans.
- (g) Uses prohibited. Setbacks and/or buffers shall not be used for streets or for parking except for entrances and driveways which may penetrate the setback and/or buffer.

(Ord. No. 31A-141, 5-4-92; Ord. No. 31A-226, 5-22-07; Ord. No. 31A-276, 9-11-12)

Sec. 24-524. - Street improvements.

- (a) All dedicated public streets shown on the development plan shall meet the design and construction requirements of the Virginia Department of Transportation's standards or the county subdivision

ordinance, whichever is greater. Such public streets shall be coordinated with the major transportation network shown in the county Comprehensive Plan.

- (b) Private streets may be permitted upon the approval of the board of supervisors in accordance with the provisions of section 24-62.

(Ord. No. 31A-205, 5-8-01; Ord. No. 31A-255, 11-22-11; Ord. No. 31A-276, 9-11-12)

Secs. 24-525—24-534. - Reserved.

## DIVISION 4. - LANDSCAPING

### Sec. 24-86. - Statement of intent.

The purpose of this division is to promote the public health, safety and welfare by providing for the preservation and planting of trees in order to safeguard and enhance residential and commercial real estate values; reduce noise, glare, and heat; conserve energy; buffer noise and wind; mitigate storm water runoff; protect properties from erosion; and provide habitats for wildlife.

These objectives will be realized through regulatory measures which seek to encourage planting of trees, discourage tree removal and promote preserving specimen trees. The preservation, installation, and maintenance of trees and plant materials will:

- (1) Ensure development which is consistent with the goals of the Comprehensive Plan related to natural resources, environmental and land use standards, Community Character Corridors, and aesthetics;
- (2) Retain the historic and natural character of James City County by reducing the visual impact of signs, parking lots, buildings and structures and protecting, preserving and enhancing its natural physical wooded character with emphasis on preserving the existing tree canopy and other indigenous vegetation and providing such canopy and vegetation where it does not exist;
- (3) Minimize the environmental and land use impacts of developments associated with noise, glare, dust and movement; changes in appearance, character and value of neighboring properties; and effects on air and water quality, stormwater runoff, groundwater recharge and soil erosion by preserving existing tree canopies and indigenous vegetation and restoring such canopies and vegetation and providing other landscape features;
- (4) Promote traffic safety by controlling views and visually defining circulation patterns;
- (5) Provide more comfortable exterior spaces and conserve energy by preserving and providing tree canopies and other landscape features which provide shade and windbreaks; and
- (6) Ensure the location, type, and maintenance of plant materials create and maintain a safe environment for users of the site.

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

### Sec. 24-87. - Administration.

- (a) Landscape plan and tree clearing and protection plan; when required. A landscape plan and tree clearing and protection plan is required for any site plan or residential subdivision plan for development subject to sections 24-100 (f) and (g) and shall be submitted at the time of application for plan approval. The landscape plan shall be prepared and approved in accordance with article III, Site Plan. The landscape plans shall also indicate the location of all existing and planned utilities and any proposed outstanding specimen tree. The tree clearing and protection plan shall be prepared and approved in accordance with section 23-10 (3) of the County's Chesapeake Bay Preservation Ordinance. The landscape plans shall also indicate the location of all existing and planned utilities, and any proposed designated outstanding specimen tree as defined in section 24-93 of the zoning ordinance; and

- (b) A narrative shall accompany the plan explaining how only trees necessary for the development of the site are proposed to be removed and that no adverse impacts are created on adjacent properties that result in damaged trees.
- (c) Landscape plan; who prepares. A Virginia registered landscape architect, a member of the Virginia Society of Landscape Designers, or a Certified Virginia Nurseryman with experience preparing planting plans and landscape construction drawings, shall prepare landscape plans for projects that propose a new building or group of new buildings whose building footprint(s) exceeds 2,500 square feet; or propose site improvements which result in the disturbance of 5,000 or more square feet of land area.
- (d) Plan requirements and determinations. Where requirements of this section are based on zoning or planning designations, such designations shall be determined by the county zoning district map, Comprehensive Plan and Six-Year Secondary Road Plan and the official planning and zoning documents of the adjoining jurisdiction if applicable. Required landscape areas shall exclude any planned future right-of-way as designated on the Comprehensive Plan, Six-Year Primary or Secondary Road Plan, Long Range Transportation Plan, approved master plan, or any road plan adopted by the board of supervisors.
- (e) Installation of required landscaping, performance guarantee. Where a landscape plan is required, landscaping shall be installed and existing trees shall be preserved in conformance with the approved landscape plan. A certificate of occupancy shall not be issued until all landscaping has been installed in accordance with the approved landscape plan unless the installation of any incompleated landscaping is guaranteed as provided in section 24-8.
- (f) Maintenance of landscaping. The owner, or his agent, shall be responsible for the maintenance, repair and replacement of all landscaping materials, fences and barriers as may be required by the provisions of this section. All plant materials, including existing trees preserved to meet the requirements of this section, shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. Fences and walls shall be maintained in good repair. Replacement material shall conform to the original intent of the approved landscape plan and any replacement planting shall meet the minimum requirements of this section.

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-88. - Tree protection and criteria for tree removal for all uses requiring a landscape plan.

- (a) Standards for tree protection and impervious cover. Existing mature trees shall be preserved except in impervious areas and impervious cover shall be limited to the extent permitted in the county's Chesapeake Bay Preservation Ordinance. Existing mature and specimen trees shall be integrated into the overall plan of development and shall be preserved so as to promote the intent of this section. The commission or planning director, depending upon the applicable review process, may require that certain mature trees or specimen trees be preserved upon determination that they contribute significantly to the character of the county and that preservation is necessary to satisfy the intent of this section. The purpose of this paragraph is to protect such trees and other amenities which could otherwise be lost due to careless site design or construction. All trees to be preserved shall be protected in accordance with the standards of this section.
- (b) Tree protection.
  - (1) All trees to be preserved shall be protected before, during and after the development process in accordance with specifications contained in the Virginia Erosion and Sediment Control Handbook. The applicant shall include a conservation checklist for review and approval by the engineering and resource protection director which shall ensure that the specified trees will be protected in accordance with these specifications.

- (2) Groups of trees shall be preserved rather than single trees. Trees or groups of trees to be preserved shall be clearly marked in the field.
- (3) Trees and groups of trees to be preserved shall be enclosed by a substantial, temporary fence or barrier as specified by the engineering and resource protection director. The location, type, and installation standards for protective tree fencing shall be clearly shown on the site plan. The fence or barrier shall be located and maintained outside the dripline before commencement of clearing or grading. The fencing or barrier shall remain throughout construction and any subsequent grading or excavation unless otherwise approved on a clearing and grading plan. In no case shall materials, debris, fill, vehicles or equipment be stored within this enclosure, nor shall the topsoil layer be disturbed except in accordance with tree protection standards approved as part of the conservation checklist.
- (4) The developer shall be responsible for ensuring these areas are protected in accordance with this section. Where changes from the existing natural grade level are necessary, permanent protective structures, such as tree walls or wells, shall be properly installed in accordance with the Virginia Erosion and Sediment Control Handbook, as required by the engineering and resource protection director.

(c) Tree removal:

Outside impervious areas, trees may be removed in accordance with sections 24-98 (f) (2) and (3).

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-89. - Phased clearing plan; submittal requirements.

- (a) "Phased clearing" means the clearing or grading of a parcel of land in distinct portions with the stabilization of each disturbed section before the cutting and removal of trees or grading of the next section. A phased clearing plan shall be required to be submitted with the tree clearing and protection plan on all sites upon which more than 25 acres are disturbed. The size of each phase will be established at site plan review and as approved by the planning director or Development Review Committee (DRC) and the planning commission for plans meeting the criteria of section 24-147. Phased clearing plans and grading plans shall be coordinated to provide a balancing of cut and fill operations to minimize the need to transport fill materials on- or off-site. Exemptions to these phased clearing plan submittal requirements may be granted by the planning director for parcels that have an insignificant amount of existing trees or when it can be shown that clearing the site in portions would be impractical and that phasing would not provide any economical, environmental, or public benefit.

(Ord. No. 31A-253, 11-22-11)

Sec. 24-90. - General standards.

- (a) All tree removal shall be limited to the area required for the practical development of the site. No clear cutting shall be permitted except when it is shown that the complete removal of vegetation is necessary for the development of the site. Clear cutting is defined as removal of large areas of existing vegetation in areas not necessary for the construction of buildings and/or the infrastructure associated with the development.
- (b) This ordinance strongly encourages the planting of trees native to eastern Virginia and/or adaptable to the coastal conditions and climate of James City County. As a resource for developing tree plans, the planning director or his designee shall maintain and make available to the public a list of desirable trees based on their adaptability to the climate of eastern Virginia.

(Ord. No. 31A-253, 11-22-11)

Sec. 24-91. - Modification, substitution, transfer.

Generally the need for any modification, substitution or transfer shall be demonstrated by the applicant. Nothing in this section shall act to circumvent the landscape standards and purposes set forth in this division. Modifications, substitutions and transfers are intended to provide more flexibility in specific limited instances as more particularly described below.

- (a) Cases for modifications. Modifications may be requested when an adjustment to planting mixtures or densities are needed. Planting density may be modified by proposing plants that are larger than minimum ordinance standards for plant size in exchange for a reduction in quantity when it can be demonstrated that due to site constraints planting to ordinance requirements will result in overplanting and where a transfer of plant materials cannot accomplish the same intent as described in the modification request. Applicants may propose a minimum 25 percent increase in plant size for a maximum 25 percent reduction in required plant quantity. Planting mixtures may be adjusted to provide more screening, complement surrounding areas, or to implement a planting theme.
- (b) Cases for substitution. Substitutions of plant materials may be considered if it can be demonstrated that the substitution is warranted and is equal to or greater than the standard requirement.
- (c) Cases for transfer. Transfers may be requested when it can be demonstrated that the transferred plant materials serve to provide a greater public benefit than the standard requirements would provide.
- (d) All modifications, substitutions, or transfer requests shall be designed to mitigate existing site constraints or meet the conditions listed below:
  - (1) The proposed landscape plan, by substitution of technique, design or materials of comparable quality, but differing from those required by this section, will achieve results which clearly satisfy the overall purposes of this division in a manner clearly equal to or exceeding the desired effects of the requirements of this division;
  - (2) The proposed landscape plan substantially preserves, enhances, integrates and complements existing trees and topography;
  - (3) Where, because of unusual size, topography, shape or location of the property or other unusual conditions, strict application of the requirements of this division would result in significant degradation of the site or adjacent properties;
  - (4) Where existing easements present site constraints in which this division would result in overcrowding of landscape plant materials;
  - (5) Where, because of narrow parcels, unusually shaped lots, or sloping topography, strict application of the landscape standards of this division would result in overcrowding of landscape plant materials;
  - (6) The proposed landscape design or materials involve a readily discernible theme, historic or otherwise, or complements an architectural style or design;
  - (7) Where it is necessary to allow the subdivision of property on which commercial or industrial units will be for sale, for sale in condominium or for lease, and such units are constructed as part of a multiunit structure in which the units share common walls or are part of a multiple-structure development, and the entire development has been planned and designed as a cohesive, coordinated unit under a single master plan; or
  - (8) Where transfers of required landscape areas to other areas on a site are necessary to satisfy other purposes of this division, including transfers to increase screening or preserve existing trees, provided such transfers do not reduce overall landscape requirements for a development.

- (e) Process for requesting modifications, substitutions, or transfers. Requests for modifications, substitutions or transfers shall be filed in writing with the planning director at the time of plan submittal and shall identify the specific requirement of this section and the reasons and justifications for such request together with the proposed alternative. Depending upon whether the landscape plan is subject to commission or administrative review, the commission or planning director shall approve, deny, conditionally approve or defer action on such request and shall include a written statement certifying the above findings. The commission or planning director may require the applicant to provide plans, documentation or other materials to substantiate these findings.

In the case of approvals or conditional approvals, this statement shall include a finding as to the public purpose served by such recommendations, particularly in regard to the purposes of this division. The planning director shall notify the applicant in writing as to the reasons for such action within 30 days of submittal of administrative plans meeting all applicable submittal criteria or within five working days of such decision by the commission.

- (f) Findings for acceptance of modifications, substitutions, or transfers. The commission or planning director may modify, permit substitutions for any requirement of this division, or permit transfer of required landscaping on a site upon finding that:
  - (1) Such requirement would not promote the intent of this division;
  - (2) The proposed site and landscape plan shall satisfy the intent of this division and its landscape area requirements to at least an equivalent degree as compared to a plan that strictly complies with the minimum requirements of this division;
  - (3) The proposed site and landscape plan shall not reduce the total amount of landscape area or will not reduce the overall landscape effects of the requirements of this division as compared to a plan that strictly complies with the minimum requirements of this division;
  - (4) Such modification, substitution or transfer shall have no additional adverse impact on adjacent properties or public areas; and
  - (5) The proposed site and landscape plan, as compared to a plan that strictly complies with the minimum requirements of this division, shall have no additional detrimental impacts on the orderly development or character of the area, adjacent properties, the environment, sound engineering or planning practice, Comprehensive Plan, or on achievement of the purposes of this division.

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11; Ord. No. 31A-288, 4-9-13)

Sec. 24-92. - Size requirements for new plantings.

Planted trees and shrubs shall conform to the minimum size requirements outlined in the following table.

Size Requirements for New Plantings		
Category	Type	Minimum Size at Planting
Trees	Deciduous Shade Tree (D)	Minimum Caliper is= 1.5".
	Evergreen (E)	If multi-stemmed, minimum height shall be 8-feet.If

		single-stemmed, minimum caliper shall be 1.25" with minimum height of 8-feet.
Ornamental Tree	Single-Stemmed (D) or (E)	1.25" in caliper and 8-feet in height.
	Multi-Stemmed (D) or (E)	8-feet in height.
Shrub	Low Growing Woody Plant having several permanent stems.	18" if evergreen. 22" if deciduous.
Caliper - The diameter of a tree trunk measured 6" above-ground for nursery stock.		

(Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-93. - Summary of definitions for trees and shrubs.

Outlined below is a quick reference of the definitions for trees and shrubs. Please refer to section 24-2 for complete definitions of these terms.

Type	Character	Minimum Size
Specimen Tree	Free of disease and significant damage or which is notable by virtue of its size and quality for its particular species.	Diameter at breast height (DBH) is 24" or greater.
Outstanding Specimen Tree	Free of disease and significant damage or which is notable by virtue of its outstanding size, form, shape, spread, and quality for its particular species as determined by the planning director or his designee per the Outstanding Specimen Tree Designation guidelines and form.	Trees designated as outstanding specimens by the planning director or his designee.
Mature Tree	Free of disease and significant damage.	DBH is 8" or greater
Understory or Ornamental Tree		

<p>Trees that typically do not exceed a height of 40-feet at maturity. Understory are those trees typically found within a native plant community. Common understory examples include: Wax Myrtle, American Holly, and Dogwood. Examples of ornamental trees include Japanese Maple and Crape Myrtle.</p>		
<p>Overstory Tree</p>	<p>Trees that typically exceed a height of 40-feet at maturity. Common examples include: Loblolly Pine, Oaks, Red Maple, and London Plane Tree.</p>	
<p>Diameter at breast height (DBH)—The diameter of a tree trunk measured 4.5 feet from the ground.</p>		

(Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-94. - Plant material standards.

- (a) All required plantings shall conform with the most recent edition of American Standard for Nursery Stock, published by the American Association of Nurserymen, and shall be planted in accordance with the most recent edition of Guidelines for Planting Landscape Trees and Planting and Care of Trees and Shrubs, published by the Virginia Cooperative Extension Service.
- (b) Required planting materials shall be of a species that promotes the intent of this division and that is compatible with the proposed planting environment.
- (c) Transplanting for the purpose of achieving a larger size tree may be approved, provided it is done in accordance with accepted horticultural and silvicultural practices.

(Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-95. - Tree credits.

- (a) Existing viable trees, preserved on the site in accordance with the tree protection standards outlined in section 24-88 (b), may provide tree credits which shall reduce the number of new trees required to be installed.
- (b) The trees to be saved shall be clearly identified on the landscaping plan and tree clearing and protection plan. The plan shall identify the specific location, number, size, and type of trees proposed to be saved and the requested tree credits.
- (c) The amount of tree credit is outlined in the following chart.

Tree Credits	
Trees to be saved:	Tree Credits:
1 viable ornamental tree meeting the minimum size at planting as described in Section 24-93.*	1 planted ornamental tree.
3 viable trees meeting the minimum size at planting as described in section 24-93.*	1 planted tree.
1 viable mature tree.	2 planted trees.
1 viable specimen tree.	3 planted trees.
1 viable outstanding specimen tree as approved by the planning director or his designee.	5 planted trees.
No credit shall be given for any trees that are not protected in full compliance with the tree protection standards listed in section 24-88 (b).	
* The trees to be saved shall be "tagged" in the field in order for the planning director or his designee to inspect the trees to determine which trees are eligible to receive credit. Only those trees which are healthy, of the minimum size noted above, and are of a suitable quality shall be deemed acceptable for receiving credit.	

(Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-96. - General landscape area standards.

- (a) Tree preservation and the minimum number required. Existing trees shall be retained to the maximum extent possible in all landscape areas. All required landscape areas, other than landscape areas adjacent to buildings and within parking lots as required in sections 24-97 and 24-99, shall contain at least a minimum number of trees and shrubs as specified in the following chart:

Quantity Requirements - General Landscape Area Standards		
AND		
Number of Trees	Number of Shrubs	Per

1	3	400 square feet of total landscape area provided.
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(b) Size and mixture requirements.

Size and Mixture Requirements - General Landscape Areas		
Percentage	Of	Shall Be:
At least 35%	Trees	Minimum Caliper of 2.5" at planting
Minimum of 15% and Maximum of 25%	Trees	Ornamental trees
At least 35%	Trees	Evergreen Trees which will achieve a minimum height of 40 feet at maturity.
At least 40%	Trees	Deciduous Shade Trees which will achieve a minimum height of 50 feet at maturity.
At least 35%	Shrubs	Evergreen

(c) Distribution, mixture and placement. Planted trees and shrubs shall be reasonably distributed throughout the site singly or in groups, with an appropriate mix of planting types and species which achieves the purposes of this section. Required landscape areas shall be designed so as to not create vehicular and pedestrian hazards.

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-97. - Landscape areas adjacent to buildings.

A landscape area which is a minimum of ten feet wide shall be provided adjacent to buildings. Up to one-half of this area may be transferred elsewhere on the site. This area shall contain a number of trees and shrubs equal to at least the minimums specified in the following chart.

Quantity Requirements - Adjacent to Buildings
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OR		
Number of Tree(s)	Number of Shrubs	Per
1 ornamental.	5	200 square feet of planting area.

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-98. - Landscape area(s) along right(s)-of-way.

(a) Width requirements. A landscape area having an average width as specified in the following chart shall be provided adjacent to any existing or planned road right-of-way.

Width Requirements for Landscape Areas along Right(s)-of-Way.			
<b>(1) Community Character Corridors</b>			
	Standard	Minimum width conditioned upon approval of planning director. Reference section 24-98(e) for the criteria.	Reduction for lots less than 1.5 acres which were recorded or legally in existence prior to July 3, 1990.
Average Width	50-feet	30-feet	20-feet or 10% of the average lot depth, whichever is greater.
Minimum Width	25-feet	20-feet	15-feet
<b>(2) All Other Roads</b>			
	Standard		Reduction for lots less than 1.5 acres which were recorded or legally in existence prior to July 3, 1990.
Average Width	30-feet		20-feet or 10% of the average lot depth, whichever is greater.

Minimum Width	15-feet	15-feet
(3) Further Reductions for Master Planned Communities with Approved Design Guidelines.		
<p>The standards provided above can be further reduced for developments that are part of an approved master-planned community and have a governing set of design guidelines approved by the county. The design guidelines shall specify architectural standards, building placement and massing, parking location, sidewalks, street-lighting, streetscape standards, landscaping, signage, and other important community aesthetic features.</p>		

- (b) Square footage calculation for landscape areas. All landscape areas along a right-of-way shall contain a minimum amount of square footage which shall be equal to:

Square Footage Calculation
Square Footage = [Applicable Average Width Requirement] * [Length of Right-of-Way Frontage]

In no case shall any portion of any landscape area located more than 65 feet from the right-of-way of a Community Character Corridor or 45 feet from the right-of-way along all other roads be counted toward meeting the requirements of this paragraph. All required square footage shall be contiguous and located in an area that is directly adjacent to the right-of-way except as provided for in section 24-98 (f)(1).

- (c) Outdoor operations and storage.

Any commercial or industrial operation or storage conducted in whole or in part out-of-doors shall:

- (1) Be screened from the right of way and conform to the landscape requirements in section 24-98 and 24-100 (a) of the zoning ordinance. Evergreen tree and shrub mixture requirements of section 24-94 (b) shall be used to screen the outdoor operations from the public right-of-way; and
- (2) Be well drained with adequate provisions to control storm drainage and erosion; and
- (3) Where the ground cover would be routinely disturbed because of the nature of the activity to be conducted or because of vehicular traffic, the area shall be maintained in an all-weather surface; and
- (4) Be screened from adjacent property by landscaping and fencing, except that outdoor displays for sale of vehicles, equipment, machinery and/or plant materials shall be exempt from the screening requirements where such screening would materially interfere with the visibility of the items for sale from a public road; and
- (5) Be limited to uses and items to be stored which do not create noise, odor, dust or other objectionable effects. The effects of an activity shall be assessed at the nearest property line.

- (d) "Construction zone" setback for structures.
  - (1) All structures shall be setback a minimum of 15-feet from the perimeter of the landscape area buffer required in section 24-98 (a). For example, if the required landscape area buffer measures 50-feet in width from the right-of-way, then the structure(s) shall be no closer than 65-feet from the right-of-way.
  - (2) The "construction zone" setback shall be clearly delineated on the site plan.
  - (3) This "construction zone" setback shall not apply to parking lots. Parking lots may be constructed up to the edge of the required landscape buffer provided no grading, tree removal, or land disturbance occurs within the required landscape buffer.
- (e) Waiver criteria for landscape areas along Community Character Corridors. The average width requirement of the required landscape areas along Community Character Corridors may be reduced by the planning director if subsection(s) (1) and/or (2) provided below is satisfied. In no case shall the total reduction exceed 20 feet. In deciding whether a reduction in the standard landscape area width is warranted, the planning director shall consider the impact of proposed road and/or utility improvements on existing trees and vegetation. Planned road and/or utility improvements that will remove existing trees and vegetation will reduce the likelihood of a reduction in landscape area required. In approving a reduction request, the planning director may require additional plantings beyond the minimum ordinance requirements, alter the mixture of plantings provided, and/or specify the types of plantings to be used.
  - (1) The applicant may achieve a maximum reduction of 10 feet by providing superior site design with a combination of elements such as:
    - a. Parking located away from public view behind buildings or screened by other architectural features (i.e. decorative brick walls);
    - b. Innovative use of grading and topography to minimize visual impacts of parking and other unsightly features (i.e. dumpsters, HVAC equipment, loading areas, etc.);
    - c. Provision of pedestrian amenities beyond what the ordinance requires. Examples may include brick pavers to connect existing and planned pedestrian walkways, lighting, and benches; or
    - d. The use of monument style signs that are of a scale and type that complement the positive features of the surrounding architecture and streetscape. The use of wood, brick, or other natural features is recommended.
  - (2) The applicant may achieve a maximum reduction of 15 feet by providing superior architecture and building materials that meet the following standards.
    - a. The building architecture and materials complement the positive features of nearby existing or planned development and/or the character of Colonial Williamsburg and James City County;
    - b. Architecture and materials should be unique and not replicate standard and/or conventional prototypes; and
    - c. The proposed location of the building and parking areas shall not require the removal of specimen trees or large stands of viable mature trees.
- (f) Right-of-way landscape area performance standards.
  - (1) Permitted breaks in landscape areas.
    - a. All landscape areas along rights-of-way shall be continuous along the road right-of-way frontage, except where driveway, utility or other breaks running perpendicular to the right-of-way are necessary, and shall be designed in a manner that achieves the intent of this division.

- b. No new utilities, outside of those running parallel to permitted breaks in the required landscape areas, shall be located within the required landscape area(s) unless a waiver is granted by the planning director. The planning director shall grant a waiver only if the applicant can sufficiently demonstrate that there are unavoidable physical or regulatory constraints that warrant an intrusion into the landscape area.
- (2) Tree preservation and criteria for tree removal.
- a. All existing viable mature trees (eight inches or greater diameter at breast height (DBH)) and specimen trees (24 inches or greater DBH) shall be preserved within the required right-of-way landscape area. All understory trees of two inches or greater DBH shall be preserved.
  - b. The planning director or his designee may permit the removal of understory and overstory trees exceeding these size thresholds after an on-site inspection. The trees must be tagged to allow for easy identification. The planning director or his designee shall authorize removal of the tagged trees only if they are of poor quality, diseased, not consistent with the existing or planned plant species and design, poorly situated so as to interfere with the growth of other viable trees and/or shrubs, compromise safety, or interfere with other planned site improvements such as sidewalks and/or signs.
- (3) Buffer grooming and enhancement.
- a. Trees below the size thresholds stated above in paragraph (2) and underbrush may be hand-removed from the landscape area. No grading shall be permitted; however, hand grooming is permitted.
  - b. Overstory tree limbs may be removed/"limbed-up" to a maximum height of ten feet above the base of the tree. Understory tree limbs may be removed/"limbed-up" to a maximum height of six feet. These height limitations shall not restrict the removal of dead, diseased, or injured tree limbs above the height limits mentioned above.
- (4) Tree protection required. The required landscape area shall be fully protected by a substantial, temporary fence or barrier with a minimum height of 40-inches. The location, type, and installation standards for this fence shall be clearly shown on the site plan. This fence shall be installed prior to the issuance of a land disturbance permit and shall remain standing until all construction activities on site have been completed.
- (5) Landscaping required. Required landscape areas shall be supplemented where necessary with planted trees and shrubs to achieve the minimum number of trees and shrubs specified in section 24-96.
- (6) Landscaping treatments of community character corridor buffers. Right-of-way landscape areas along community character corridors as designated on the Community Character Corridor Buffer Designation and Treatment Map shall be designed to meet the design standards found in the Community Character Corridor Buffer Treatment Guidelines as determined by the planning director.

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-99. - Off-street parking lot landscaping.

Parking areas, accessory or otherwise, containing ten or more parking spaces shall contain landscaping and landscape areas in accordance with all of the following:

- (a) Preservation of trees. Parking lots shall be designed and constructed so that existing viable trees are preserved in a manner which will meet the intent and satisfy the requirements in this section to the

maximum extent possible. Where such existing trees do not fully satisfy these requirements, additional trees shall be planted in an amount which meets or exceeds the stated minimum requirements. The requirements in this paragraph shall be in addition to other requirements stated in this section.

- (b) Landscape area and planting requirements. Total landscape area within the parking lot shall at least meet the minimum standards specified in the following chart.

(1) General Requirements for Parking Lot Landscaping.	
Percentage of Landscape Area Required within the Parking Lot	Based On:
Minimum 10%	Surface Area of Parking, including drives & circulation areas, exclusive of any perimeter landscape areas or landscape areas around the building.
Lots less than 65,000 square feet recorded or legally in existence prior to July 3, 1990	
Minimum 7.5%	Surface Area of Parking, including drives & circulation areas, exclusive of any perimeter landscape areas or landscape areas around the building.

(2) Quantity Requirements for Parking Lot Landscaping.		
AND		
Number of Trees	Number of Shrubs	Per
1	2	5 parking spaces in the parking lot.
Lots less than 65,000 square feet recorded or legally in existence prior to July 3, 1990		
1	2	10 parking spaces in the parking lot.
As provided above, each mature existing tree or specimen tree may be counted toward meeting the required minimum number of trees, with one (1) viable mature tree substituting for two (2) planted trees and one viable specimen tree substituting for three planted trees. No credit shall be given for any mature or specimen tree which is not protected in full compliance with the tree protection standards in section 24-88 (b) above.		

(3) Size and Mixture Requirements for Parking Lot Landscaping.		
Percentage	Of	Shall Be:
At least 25%	Trees	Evergreen Trees which will achieve a minimum height of 40 feet at maturity.
At least 50%	Trees	Deciduous Shade Trees with a 2.5 inch caliper which will achieve a minimum height of 50 feet at maturity.
At least 50%	Shrubs	Evergreen

(4) Minimum Spacing Requirements for Required Trees in Parking Areas
The required trees shall be spaced no more than 99 feet apart throughout the parking lot. These trees shall be evenly and reasonably distributed throughout the parking lot in a manner that promotes the intent of this section.

- (c) Parking lot screening. In addition to the above tree and shrub requirements, all parking lots shall be visually screened from public road rights-of-way by evergreen plantings or berms that create a screen a minimum of three feet in height. Such berms shall have a maximum side slope ratio of three horizontal feet to one vertical foot and a level crown with a minimum width of three feet for maintenance and planting purposes. Any berm shall be designed and constructed to ensure that proper erosion prevention and control practices have been utilized.
- (d) Special requirements for bus parking lots. Bus parking areas shall contain landscape areas in accordance with the above requirements except that plantings shall be provided as follows:

(1) Quantity Requirements for Bus Parking Lots		
AND		
Number of Trees	Number of Shrubs	Per
1	2	2 bus parking spaces.

(2) Size and Mixture Requirements for Bus Parking Lots		
Percentage	Of	Shall Be:
At least 25%	Trees	Evergreen Trees which will achieve a minimum height of 40 feet at maturity.
At least 50%	Trees	Deciduous Shade Trees with a 2.5 inch caliper which will achieve a minimum height of 50 feet at maturity.

(e) Excavation of parking lot islands.

- (1) All parking lot islands, peninsulas, and planting areas shall be excavated to remove all crusher run or parking lot base material and back filled with quality topsoil, except those areas where existing vegetation is to be preserved. The topsoil shall be high in organic matter and shall allow water to percolate readily. The excavation of these planting areas shall be to a minimum of 24" and will freely allow penetration of a hand-held probe to a minimum of 24".
- (2) Inspection of these planting areas shall be conducted by engineering and resource protection inspectors during the construction process.

(Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-100. - Screening.

- (a) Transitional screening. Transitional screening between conflicting land uses and districts shall be provided as required in this paragraph and in section 24-101. Such screening areas shall be left in their undisturbed natural state and supplemented where necessary in accordance with section 24-96 and with additional plantings to provide an effective visual screen. Such areas shall be continuous except where driveways, utilities and other breaks are necessary. All breaks shall cross transitional screening areas at right angles. Where such breaks are necessary, different design requirements may be imposed to achieve an equivalent screening effect. Transitional screening areas shall not contain accessory structures, storage, parking or loading.
- (b) Additional transitional screening requirements. If the commission determines that noise, dust and debris, glare or other objectionable impacts created by a proposed development will have a detrimental effect on adjoining properties which will not be adequately addressed by transitional screening required by this, section, the commission may increase minimum transitional screening requirements or setbacks and may require landscaping or architectural barriers which provide a visual screen between a proposed development and adjoining properties.
- (c) Objectionable features. Objectionable features shall be visually screened by landscaping or architectural barriers from or by adjacent residential districts, agricultural districts which are designated for residential use on the Comprehensive Plan and public streets. Objectionable features may include, but are not limited to, the following: refuse areas, storage yards, and loading areas.

- (d) Stormwater management facilities, detention ponds, and best management practices (BMPs). Stormwater management facilities, detention ponds, and BMPs that are visible from roads, adjoining properties, or open to public view shall be designed such that:
  - (1) These facilities shall not be allowed within required landscape buffers along Community Character Corridors (CCCs) unless a waiver is granted by the planning director. In order for the planning director to consider a waiver request, the applicant shall request a waiver in writing and shall present plans and documentation supporting the waiver request. The planning director shall consult with the engineering and resource protection director and shall make a determination to approve or deny the waiver request within 30 days of its receipt. The waiver request will not be approved unless the applicant can document topographical or unusual physical constraints on the property that require placement of the BMP within the right-of-way landscape area;
  - (2) The structural aspects (i.e. riser pipes, inlets, etc.) are hidden from public view and/or adjoining property owner's view, or adequately screened from these views by innovative structural design, berms, and/or landscaping;
  - (3) The facility shall be well landscaped with an emphasis on making the facility appear more natural than man-made, as determined by the planning director; and
  - (4) The facilities shall be designed and landscaped in such a manner that they are sensitive to the character of the site and surrounding properties. Unless it can be demonstrated by the applicant that an alternative design better meets the intent of this section, the facilities shall be designed with a curvilinear shape, shall be designed to complement the existing topography of the site, and/or shall be designed and landscaped in a manner that visually reduces their size, and supports growth of wetlands vegetation.
- (e) Historic landmarks and buildings. The commission may require screening of any use, or portion thereof, upon a determination that the use would otherwise have a negative visual impact on property listed on the Virginia Historical Landmarks Register.
- (f) Multiple frontage lots. Lots with multiple frontages shall have screening provided between the rear of the principal use or building and the public right-of-way.
- (g) Residential developments not subject to article III, Site Plan. Major subdivisions of residential developments, as defined in Chapter 19, shall conform with screening requirements for multiple frontage lots. Such developments shall also provide transitional screening along any property line which is adjacent to or across a peripheral public street from any multifamily, commercial or industrial zoning district. The amount of transitional screening shall be based on the zoning district adjacent to or across a peripheral public street from the proposed residential development. Such residential developments shall provide transitional screening in accordance with the requirements for the multifamily, commercial or industrial district contained in section 24-101.

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11)

Sec. 24-101. - Landscape requirements by zoning district.

All uses and developments requiring a site plan and landscape plan in accordance with article III, Site Plan, and this section shall comply with the above requirements and those which follow. Where no landscape requirements are provided for a specific zoning district, the landscape plan shall be prepared in accordance with the requirements for the district which is deemed by the planning director to be the most similar to the character of the proposed use, situation and surrounding conditions. In making this determination, the following shall be considered: the characteristics of the proposed use and surrounding area, existing zoning and Comprehensive Plan designations and use regulations of this chapter. At a

minimum, required setbacks and yards shall be provided as landscape areas which meet the requirements of this section.

(a) R-5, Multifamily residential district:

- (1) Setbacks: Setbacks from existing or planned peripheral roads, including peripheral roads shown on county approved development plans, shall contain a landscape area having an average width of 50 feet and meet requirements outlined in section 24-98 (b), (d), and (f). The balance of the setback and setbacks from internal streets shall contain existing trees and plantings in conformance with section 24-96. This requirement shall not apply to single-family dwellings.
- (2) Yards: All required yards shall contain existing trees and plantings in conformance with section 24-96. This requirement shall not apply to single family dwellings.
- (3) Transitional screening: For developments with 200 or fewer units, a transitional screening area in accordance with section 24-100, with a minimum width of 35 feet, shall be provided within the first 35 feet of yard area or setback from any property line when adjacent to or across a peripheral public street from any residential district other than R-5 or any agricultural district designated for low-density residential or rural lands on the Comprehensive Plan. For larger developments, such transitional screening area shall be a minimum of 40 feet in width.

(b) Manufactured home subdivision and manufactured home park:

Perimeter Landscape Area: If the park fronts on a public right-of-way, then a landscape area shall be provided that meets the minimum requirements of section 24-174. In all other areas a perimeter landscape area shall be provided in accordance with section 24-174 around the entire site in addition to all other yard requirements in manufactured home subdivisions and parks.

(c) LB, Limited Business District; B-1, General Business District; M-1, Limited Business/Industrial District; M-2, General Industrial District; RT, Research and Technology District; PL, Public Lands District:

- (1) Side and rear landscape area: A landscape area adjoining all side and rear property lines shall be provided which is at least 15 feet in width. Along the rear property lines, such landscape area may be reduced to a minimum of ten feet in width or five percent of the average lot depth, whichever is greater, on lots less than 65,000 square feet which were recorded or legally in existence prior to July 3, 1990. Such landscape area shall be landscaped in accordance section 24-98. Such area may be broken by necessary driveways or utilities perpendicular to the property line.
- (2) Special requirements for industrial uses: Landscape standards in section 24-96 and section 24-97 for certain landscape areas shall be reduced for all uses in M-2 or RT districts, or for industrial uses in M-1 districts, when the following requirements of this paragraph are met. For purposes of this section, industrial uses shall include any permitted use or use permitted by special use permit in an M-2 or RT district except automobile service stations, offices, employment agencies, or schools.
  - a. Landscape areas along rights-of-way and side and rear property lines: Where such a landscape area is not adjacent to a public street, and the landscape area is adjacent to one of the industrial districts listed above, then the requirements provided in the following chart shall apply:

Quantity Requirements		
Number of Trees	Number of Shrubs	Per
1	0	600 square feet of total landscape area.

For such landscape areas, none of the deciduous trees shall be required to be of a 2.5 inch minimum caliper. All required trees shall meet the other minimum standards of this section; or

- b. Landscape areas adjacent to buildings: A landscape area which is a minimum of ten feet wide shall be provided adjacent to one-half of the perimeter of the building. Up to one-half of this landscape area may be eliminated where such landscape area would be along a portion of a building's perimeter that is not visible from a public street, and that same side of the building is not visible from any district other than one of the industrial districts listed above. Such landscape area shall be landscaped in accordance with section 24-97 unless a modification is granted under section 24-91.

- (3) Transitional screening: Landscape areas along property lines of properties zoned LB, B-1, M-1, M-2, and RT shall be increased to the following widths when adjacent to or across a public street from a residential district or agricultural district if designated residential on the Comprehensive Plan:

Transitional Screening	
LB District	30 feet
B-1 District	35 feet
M-1 District	35 feet
M-2 District	50 feet
RT District	35 feet

Such landscape areas shall be exclusive of any planned future right-of-way and shall be left in an undisturbed natural state and supplemented with additional plantings to create a visual screen in accordance with section 24-100.

- (4) Landscape open space and impervious cover: As required in Chapter 23, Chesapeake Bay Preservation Ordinance, impervious cover shall not exceed 60 percent of the lot area except where an exception is approved in accordance with Chapter 23. Provided, however, in no case shall minimum landscape open space be less than that required below for the respective district:

Required Landscape Open Space	
District	Percent of Total Lot Area

LB District	35
B-1 District	30
M-1 District	30
M-2 District	25
RT District	30

(d) PUD, planned unit development district, MU, mixed use district:

(1) Landscape setbacks:

- a. Landscape setbacks in PUD, planned unit development district. Setbacks from existing or planned peripheral public roads shall contain a landscape area having an average width in accordance with section 24-498, except for industrial and commercial uses which shall have an average width of 30 feet in accordance with section 24-98 (b), (d), and (f). The balance of that setback and setbacks from internal streets shall contain existing trees and plantings in conformance with section 24-96. Landscape requirements along internal streets shall not apply to single-family dwellings. Requirements of this paragraph shall not apply to active recreation playing areas designated on the master plan and approved in accordance with article V, division 14.
- b. Landscape setbacks in mixed use, mixed use district. Setbacks from existing or planned peripheral roads, including peripheral roads shown on county approved development plans, shall contain a landscape area having a minimum width in accordance with section 24-98. The balance of that setback and setbacks from internal streets shall contain existing trees and plantings in conformance with section 24-96. Landscape requirements along internal streets shall not apply to single-family dwellings. Requirements of this paragraph shall not apply to active recreation playing areas designated on the master plan and approved in accordance with article V, division 14.

(2) Yards: All yards shall contain existing trees and plantings in conformance with section 24-96. This requirement shall not apply to single-family dwellings or active recreation playing areas designated on the master plan and approved in accordance with article V, division 14 of this chapter.

(3) Special requirements for industrial uses: Landscape standards in section 24-96 and section 24-97 for certain landscape areas shall be reduced for industrial uses in PUD and MU districts, when the following requirements of this paragraph are met. For purposes of this section, industrial uses shall include any permitted use or use permitted by special use permit in an M-2 or RT district except automobile service stations, offices, employment agencies, or schools.

- a. Landscape areas in setbacks and yards. Where such a landscape area is not adjacent to a public street, and the landscape area is adjacent to one of the districts or land bays listed above, no shrubs shall be required within such landscape area, and the required trees may be provided at a ratio of one tree per 600 square feet of landscape area. For such landscape areas, none of the deciduous trees shall be required to be of a 2.5 inch minimum caliper. All required trees shall meet the other minimum standards of this section; or

- b. Landscape areas adjacent to buildings. A landscape area which is a minimum of ten feet wide shall be provided adjacent to one-half of the perimeter of the building. Up to one-half of this landscape area may be eliminated where such landscape areas would be along a portion of a building's perimeter that is not visible from a public street, and that same side of building is not visible from any district other than one of the districts listed above. Such area shall be landscaped in accordance with section 24-97 unless a modification is granted under section 24-91.

(4) Transitional screening:

- a. Residential. Where a multifamily or townhouse structure in a PUD district is located adjacent to or across a peripheral public street from an R-1, R-2, or R-6 residential district or agricultural district if designated low-density residential or rural lands on the Comprehensive Plan, a 35-foot wide transitional screening area in accordance with section 24-100 shall be provided within the first 35 feet of yard area or setback from any property line adjoining such district.
- b. Commercial, industrial, public or institutional uses. Where a commercial, industrial, public or institutional use in a PUD district is located adjacent to or across a peripheral public street from any residential district or agricultural district if designated for residential use on the Comprehensive Plan, transitional screening shall be provided in accordance with requirements for LB, B-1, M-1, M-2, or RT districts as required in section 24-101(c)(3). The applicable transitional screening requirements shall be determined by the planning director in accordance with section 24-101.

(Ord. No. 31A-88, § 20-12.2, 4-8-85; Ord. No. 31A-123, 7-2-90; Ord. No. 31A-125, 8-20-90; Ord. No. 31A-145, 7-6-92; Ord. No. 31A-168, 5-14-96; Ord. No. 31A-200, 7-13-99; Ord. No. 31A-253, 11-22-11; Ord. No. 31A-288, 4-9-13)

**Cross reference**— Chesapeake Bay Preservation regulations, Ch. 23.

Secs. 24-102—24-106. - Reserved.